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Original Articles.

THE RELATION OF ETHYL ALCOHOL TO THE NUTRITION OF THE ANIMAL BODY.*

WINFIELD S. HALL, PH.D., M.D.

Professor of Physiology, Northwestern University Medical School.

CHICAGO.

Within the past year much has been said and written about alcohol. The daily press, the school periodicals and the medical journals have abounded in articles treating of various phases of the alcohol question. Professor Atwater's calorimeter experiments and his arraignment of the school text-books, together with the controversy regarding the army canteen, have reopened afresh questions which were supposed to be practically settled.

Most extended and trustworthy experiments have been performed in respiration-calorimeters by numerous investigators in Europe, and several European governments have made exhaustive experiments with alcohol in their armies; but a scientific question is never settled as long as new evidence is forthcoming, and all fair-minded people are open to conviction on all controversial questions.

The writer brings report of no new experiments; but attempts simply to discuss work done by others and to determine from these almost innumerable experiments and observations the relation of ethyl alcohol to the nutrition of the animal body.

So much work has been done in the last few years upon the subject of nutrition that it seems wise to give a brief résumé of the theory of nutrition as now understood by physiologists.

THE NATURE OF THE NUTRITIVE PROCESSES.

No adequate or acceptable theory of nutrition can leave out of account the work of Hertwig and the still more recent work of Verworn and Wilson on the cell. Physiologists now universally believe that the cell is the scene of all vital processes. The essential processes of nutrition are the metabolic changes which take place within the cells of the body, all other steps of nutrition are either antecedent or succeedant accessories. The antecedent accessories of nutrition are the preparation of food, its mastication, its deglutition, its digestion, its absorption, its distribution by the circulatory system, and its selection by the individual cells from the capillaries direct, or from the tissue plasma.

The cytologists tell us that cell-protoplasm is not a homogeneous substance, but that it has a complex structure, and a chemistry as complex as its structure. The cell-plasm or cytoplasm is that portion of the protoplasm outside of the nucleus, whose substance is called nucleoplasm. The cytoplasm is composed of a reticulum (spongioplasm) whose meshes are filled with a liquid (cytilymph). Inclosed within the threads of the reticulum are innumerable trophoplasts or plastids.

The part which the complex nucleus plays in nutrition is so little understood that a discussion of probabilities may be omitted from this brief paper.

All motor activity as well as all chemical activity seems to be the attribute of the spongioplasm and its associated microsomes and plastids. The function of the plastids is to build up starch, chlorrophyll, pigments, and probably many other substances from simpler compounds. In other words, it is known that plastids function in the building-up chemical process of anabolism. It is just as certain that the microsomes are also active in anabolism, because all secreting glands and all nerve-cells become more granular during rest, i. e., the granules are replenished by anabolic processes. When motion has been observed it is the spongioplasmic threads and fibers that are manifestly the active agents, while the cytolymph, which fills the meshes of the spongioplasm, is perfectly passive.

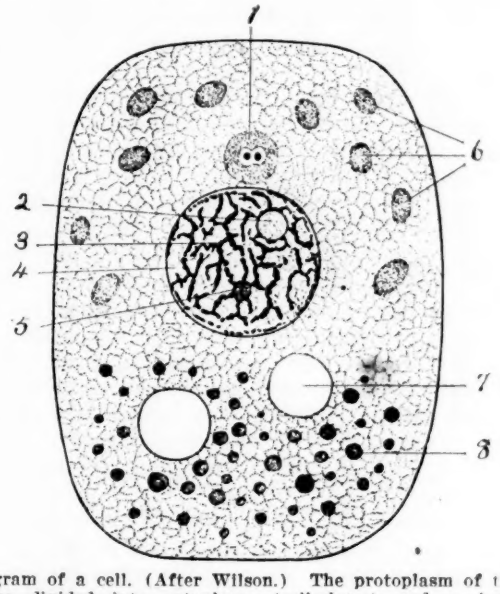

Diagram of a cell. (After Wilson.) The protoplasm of the cell may be divided into cytoplasm (cell-plasm) and nucleoplasm. Note that the cytoplasm is composed of a network (spongioplasm) in the meshes of which there is the clear cytolymph. The supposed relation between spongioplasm and cytolymph is discussed in the text.

1. Attraction Sphere inclosing the Centrosomes.
2. Plasmosome or true nucleolus; 3, Chromatin-network; 4. Linin-network; 5, Karyosome or net-knot.—Nucleus.
6. Plastids lying in the cytoplasm.
7. Vacuole.
8. Lifeless bodies (metaplasm) suspended in the cytoplasmic reticulum.

The observed facts indicate: That the spongioplasm is active and the cytolymph passive; that the spongioplasm and its associated microsomes and plastids are

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built up from the cytolymph, which is simply the cell-sap or cell-food; that the spongioplasm is a practically homogeneous living substance, while the cytolymph, representing the absorbed food-supply, is naturally a simple mixture of proteids, carbohydrates, fats and various salts, the whole made fluid by a large percentage of water.

All foods are selected by the cells from the surrounding medium and made a part of the cytolymph at first. Later they may or they may not be built up into spongioplasm. But in any case all foods are cell-builders, and if cell-builders, therefore, tissue-builders incident to their assimilation by the cell.

Physiologists and biologists[1] believe that all foods are built up into protoplasm; that is, they are selected and made a part of the living cell. That all of the dextrose and fats are actually built up into spongioplasm may or may not be true. If the dextrose is not anabolized into spongioplasm before it is oxidized, then the spongioplasm has the power of taking up the dextrose molecules and causing their oxidation, thus deriving heat energy; or, in the case of muscle-tissue, heat energy and motor energy.

There are strong reasons for believing that most of the dextrose is oxidized without being first built up into spongioplasm. If such is the case, then the relation of the living spongioplasm to the non-living cytolymph is that of an organized ferment to its medium. The spongioplasm may, therefore, be itself catabolized or it may act as a ferment and cause the catabolism of the foods of the cytolymph.

Now some of the cells of the body have to do work outside of their cell-body. The glandular cells of the alimentary tract secrete enzymes (unorganized ferments) which are poured out into the alimentary canal, where they induce hydrolytic cleavages of the ingested food-stuffs, thus preparing them for absorption and assimilation. A hydrolytic cleavage is a catabolic change. No anabolic changes may take place outside of living cells through the agency of secreted enzymes.

Among the catabolic changes which take place through secreted enzymes are oxidations. Under certain unusual circumstances sugar is oxidized in the blood by an enzyme called by Green[2] "oxidase." The body is constantly subject to the invasion of certain toxic substances like ptomains and various plant alkaloids. It has the power, within certain limits, of making these bodies harmless by oxidizing them. This is one of the protective agencies which the organism possesses. The system possesses two means of defence against harmful invasion: 1, the leucocytes defend it against bacterial invasion; 2, "oxidases," and, perhaps, other enzymes, in the blood defend it against ptomains, toxins, and allied deleterious substances. These defences are of inestimable importance to the organism, but their action is limited.

All intracellular catabolism is under the control of the organism because the action of each cell is controlled by the nervous system. All extracellular catabolism is independent of the nervous system and is, therefore, only indirectly under control. Once an enzyme is secreted it will continue to induce certain chemical changes as long as the physical conditions are favorable, wholly independent of the nervous system.

Having thus briefly reviewed some of the fundamental principles of nutrition, it is necessary that we next outline some of the conditions which a true food must fulfill.

WHAT IS A FOOD?

It is probable that in no other concept which man may wish to define does he get so much assistance from Nature as in the case of the term "food." In fact, Nature gives a very clear-cut and unambiguous definition of a food. Fortunately, she repeats this definition for every different branch of the plant and animal kingdom, so that there shall be no misunderstanding.

Nature says that the food for young mammals shall be milk. What is milk and what office does it serve in the body of young mammals? Milk consists of two kinds of protein, of fat, milk-sugar, inorganic living cells of the young growing body, and built up by them into living cell-protoplasm. Incident to the vital processes of the young mammal, portions of the cell substance are constantly being catabolized, or decomposed into simple substances. Oxygen plays an important rôle in this catabolism, and energy is liberated in the form of heat, or mechanical motion, or nervous energy, or secretory energy. Under the influence of this food the young mammal increases in size and strength.

Nature says that the food for young birds, reptiles, frogs, and fishes shall be eggs. Eggs consist of protein, of fats, of inorganic salts and water. Egg material is able to furnish all that the young bird, reptile, frog or fish needs for the early stages of his growth and development. The protein furnishes the nitrogenous compounds necessary for building up the active portion (spongioplasm) of every living cell, while the fat furnishes a non-nitrogenous portion of food, also taken within the cells of the growing animal and used there, by the active protoplasm of the cells. Eventually it is oxidized and yields its energy to the body as active heat or motor energy.

Nature's food for the young corn-plants is the matter stored away in the corn-grain by the mother-plant. This food consists of protein, carbohydrates, fats, inorganic salts and water.

For each of the different organisms mentioned above Nature supplies only one source of food. The young mammal has no alternative. It must take milk or starve. The young bird or reptile must take egg or nothing. When we subject the animal body to chemical analysis we find that it is composed of water and solids; we find that the solids are in turn composed of organic and inorganic compounds; the former comprising proteins, carbohydrates, fats, with various extractives representing products of tissue decomposition not yet excreted from the system when the animal met death. The inorganic salts represent the mineral matter of the bones, the salts of the blood and lymph, as well as those of the tissues in general. If we make analyses of various animal organisms we shall find the tabulated results strikingly similar for all classes of animals. If we make analyses of various foods which Nature provides for the young of these various animals we shall find, 1, that there is a striking qualitative similarity in the analyses; and 2, that the food analyses are strikingly similar to the analyses of the animals which they are to nourish—whole tissues they are to build up or to repair.

These coincidences are not the result of chance. Nature follows laws graven in the very foundation of living matter. Protoplasm can use as food only substance which it can bring within its cell-walls as a constituent of cell-sap (cytolymph). Though the food-stuff forms a portion of the cytolymph of the cell, it must still undergo anabolic or assimilative changes before it becomes a part of the living, moving, active, spongioplasm of the cell.

Are we now in a position to define a food in harmony with Nature's definition? Let us not attempt a brief word formula, but simply state a few of the conditions which a food must satisfy.

1. A food must be digestible and absorbable by the organism which it is to nourish.

2. A food must be assimilable by the living cells of the organism which it is to nourish. By these cells it is first made a constituent of the cytolymph, where it is held in temporary reserve for use by the acting, moving, spongioplasm, or, perhaps, by the nucleus of the cell. Incident to the assimilation of a food it will build up new tissue. It is customary for physiologists to differentiate between the building-up of new tissue and the repair of old tissue. This distinction is wholly gratuitous and unnecessary. New protoplasm is being built from the foods of each meal, old protoplasm is being catabolized or decomposed constantly. If the new protoplasm formed balances the old protoplasm decomposed, it is said that "the repair balances the waste." If the accretion exceeds the excretion, it is said that "the wastes are repaired and there is a balance for growth."

3. All assimilated foods, i. e., all living tissues, undergo catabolic changes accompanied by oxidation. This is nearly the equivalent of saying all assimilated foods are oxidized within the body; yet there is an important technical difference which makes the first statement more acceptable to the physiologist.

4. All of the energy which the animal organism can advantageously use is liberated incident to the catabolism of assimilated foods.

5. The energy which a food supplies must be liberated at such a time and place as to be beneficial and advantageous to the organism.

6. No substance can be recognized as a food which is not properly absorbable and assimilable, and whose catabolism or oxidation is not so controlled in time and place —i. e., co-ordinated—as to be advantageous to the system.

Let me quote the great physiological chemist, Bunge, on this point[3]: "It is not enough to prove that potential chemical energy is changed into kinetic energy. The oxidation must take place at the right place, i. e., at exactly the right stage in the activity of particular tissue-elements. It must be demonstrated that the kinetic energy liberated can be utilized in the performance of a normal function, otherwise the substance oxidized is not a food."

WHAT IS ALCOHOL?

It is unnecessary to discuss the chemistry of alcohol before this audience. It is universally recognized that its chemical formula and its various chemical relations are sufficiently different from those of any of the recognized foods that it must be put into a class by itself if it is admitted into the select company of the foods.

It is the essential nature of alcohol that I wish especially to discuss here. Alcohol is formed from sugar by the yeast plant. The yeast plant is a fungus. No fungus is able to build up organic substances from inorganic ones; that function is performed by green plants alone. Fungi (and bacteria) live upon the same substances as those that form the food of animals. Their metabolic processes are similar to those of animals. The yeast plant eats sugar and assimilates it into its cell protoplasm. It catabolizes this differently under different circumstances. If there is an abundance of oxygen the yeast plant will grow and multiply rapidly and will give off much more carbon dioxid than alcohol proportionately, showing that the sugar is in part used in building up new cell-substance and in part is completely oxidized to carbon dioxid and water. There is always some alcohol produced and the amount increases very much when the oxygen is shut away from the yeast—as is the case in the large beer and wine vats.

Dumas, the French chemist, writing in 1843, said: "Fermentations are always phenomena of the same order as those which characterize the regular accomplishment of the act of animal life. They take possession of complex organic substances and unmake them at once or by degrees." Trouessart[4] said, in 1886, that this statement of Dumas' had been "confirmed and no one now doubts it."

Dr. Josef Bersch[5] makes these statements: "Alcoholic fermentations can take place only in those fluids which are able to furnish for the yeast all of those substances which are necessary for its nourishment. The nourishing fluid passes into the body of the yeast-cell and the nutriment which is contained in the liquid is assimilated by the cell-protoplasm. Every yeast-cell gives up substances to the surrounding medium, which substances can only consist of such compounds as are of no further use to the organism, i. e., they are the *excreta*. . . . The yeast-cell excretes alcohol, carbon dioxid and other substances."

In his "Studies on Fermentation" Pasteur coincides with the above theory except that he believes that the yeast takes up the sugar in order to appropriate its oxygen. He did not, however, make it evident from a chemical staindpoint that this would be possible. We readily see that the decomposition of the sugar into the two simple products, alcohol and carbon dioxid yields a certain amount of energy. It is the energy that the yeast is after and not the oxygen. Pasteur admits this as alternative to his original hypothesis.

Pasteur[6] reports a most significant observation upon fruit kept in an atmosphere of carbon dioxid for eight days. The sugar of the fruit had been largely decomposed into alcohol and carbon dioxid and the 24 plums yielded 6.5 gm. of alcohol on distillation.

Lechartier and Bellamy[7] repeat Pasteur's experiments with fruit in an atmosphere of carbon dioxid, confirm his results and consider "that the formation of alcohol in fruits in an atmosphere of carbon dioxid may be attributed to the fact that the processes of life in the cells of fruit continue under new conditions similar to those of the cells of a ferment. If the fruit be crushed, before immersion in carbon dioxid, the production of alcohol and carbon dioxid will not occur, because the life of the cells has been destroyed."

Sims Woodhead, the Director of the Laboratories of the Royal College of Physicians, London, in his work on "Bacteria and their Products," recognized the analogy between alcohol and the ptomains. Aitken, writing on "Animal Alkaloids," brought out the fact that the bacterial decomposition of albuminous matter in absence of oxygen produces toxic leucomains. Let us not forget in this connection that the decomposition or catabolism of sugar by yeast, in absence of oxygen, produces alcohol.

Vaughan[8] says: "When ptomains are formed in the presence of a little oxygen they are poisonous; when formed in the presence of a free supply of oxygen they are invariably non-poisonous." "They—the cells of the body as well as bacteria—are injured when the products of their own activity accumulate about them." Also, "It is true without exception as far as we know that the excretions of all living things, plants and animals, contain substances which are poisonous to the organisms

which excrete them. These poisons originate in the metabolic changes by which the complex organic molecule is split up into simple compounds."

Verworn[9], in discussing fermentation, gives the following equation as representing the decomposition of dextrose in alcoholic fermentation:

$$C_6H_{12}O_6=2C_2H_5.OH+2CO_2.$$

Now the carbon dioxid rapidly escapes from a fermenting liquid, but the alcohol accumulates, poisons the yeast plants and stops their activity.

It has been found that over 5 per cent. of the sugar consumed does not appear as alcohol and carbon dioxid and further that the quantitative equivalent of about 4 per cent. appears as glycerin and succinic acid, while 1 per cent. is unaccounted for.[10] Succinic acid is a poisonous ptomain (leucomain) belonging to the oxalic acid series.

Not only will the excretion of any living organism poison the organism which produces it but it will poison any organism of higher rank and some organisms of lower rank. Thus the excretion of a mammal might serve as food for some of the lower invertebrates and certainly for fungi and bacteria, while the excreta of the yeast fungus serves as pabulum for the bacterium of acetic acid. The excretion of the bacteria—ptomains—and of the yeast plant—alcohol—are poisonous to all higher organisms, in the very nature of the case.

We have found that higher animal organisms possess a means of defense against ptomains, alcohol and similar toxic substances: they oxidize them in the blood through the agency of a circulating enzyme, oxidase; this means has, however, its limitations.

THE RELATION OF ALCOHOL TO NUTRITION. IS ALCOHOL A FOOD?

W. O. Atwater, Professor of Chemistry at Wesleyan University, Middletown, Conn., and head of the work being done in the Government Experiment Stations on the Chemistry of Foods, has arraigned the school textbooks of physiology before the American people on the charge of falsehood, because these books teach the boys of America that alcohol is a poison and not a food, while his experiments with men shut up in a calorimeter demonstrate to his satisfaction that "alcohol is a food" and " not a poison, in moderate quantities." Professor Atwater's definition of food is, "That which taken into the body builds tissues or yields energy." Note especially the alternative betwen tissue-building and energy-yielding. According to this experimenter, any substance is a food if it is oxidized "in the body" anywhere between the mouth and the excretory surface. Not since the days of Liebig, a half-century ago, have the bars that set a boundary to foods been so ruthlessly torn down. Even iron filings and phosphorus satisfy the terms of this definition; and a long list of ptomains, leucomains, and toxins come clearly within the definition. Here is a list of a few of the substances which satisfy Atwater's definition of a food: Succinic acid $(COOH)_2.(CH_2)_2$ oxidized to CO_2 and H_2O; asparagine $(CONH_2.C_2H_3.NH_2.COOH)$ and glutaminic acid $(COOH)_2—(CH_2)_2—CHNH_2)$ both oxidized to urea, water and carbon dioxid. Chinolin (C_9H_7N) is oxidized similarly. Tyrosin[11] $(C_6H_4.OH—C_2H_3NH_2—COOH)$ is oxized to phenol, H_2O, CO_2 and NH_3.

Blyth, in his admirable new work on poisons, gives the following toxins as frequent causes of death: Muscarin, $(CH_2OH—CHOH—N—(CH_3)_3.OH$, also neurin $(CH_2—CH—N—(CH_3)_3.OH.)$ Both of these are intensely poisonous and both are oxidized in the system.[12]

Meta-phenylene-diamin $(C_6H_4—(NH_2)_2$ and also para-phenylene-diamin are both poisonous and are both oxidized in the animal body. Morphin is also oxidized in the body.

It is unnecessary to carry the list further; these substances, though more complex than ethyl alcohol, are closely related to it physiologically.

Liebig classified foods as "plastic" and respiratory," i. e., as tissue-builders and energy-producers. No authoritative modern work on physiology recognizes any distinction between these two functions of food. The teaching of modern physiology is: *All food is tissue-building in its assimilation; all food is energy-yielding in its catabolism.*

Atwater admits that the only points that alcohol possesses in common with the foods are: 1, it is oxidized within the body; 2, it decreases carbonaceous and perhaps also proteid catabolism. This is called the "sparing" action of alcohol and is alleged to entitle alcohol to a place among foods. In demonstrating these two points, Professor Atwater is simply confirming what has been known for at least twenty years, so that he has added no new facts to science in his calormeter experiments. He has simply accumulated evidence of facts that have long been generally recognized. Upon the basis of his experiments he has set up the old and oft-refuted claim that alcohol is a food.

To quote a recent editorial[13] of THE JOURNAL of the A. M. A.: "The fallacy of the reasoning which would place alcohol among the foods is very apparent when we put it in the form of syllogisms: All foods are oxidized in the body; alcohol is oxidized in the body; therefore, alcohol is food. As logically we might say: All birds are bilaterally symmetrical; the earthworm is bilaterally symmetrical; therefore, the earthworm is a bird. Oxidation within the body is simply one of several important properties of a food, as bilateral symmetry is one of several important characters of a bird."

If we admit alcohol to a position among the foods on the simple grounds of oxidation we must also admit numerous substances universally acknowledged to be toxic.

There are a number of medical writers who speak of alcohol as having "a limited food value" because of its oxidation in the body. It would be just as reasonable to contend that because an earthworm is bilaterally symmetrical it is, therefore, to a limited extent a bird!

There is a good deal of misinterpretation and misapprehension regarding the significance of certain of the effects of alcohol upon the vital activity of the cells. It has been determined, for example, that after the ingestion of alcohol the excretion of carbon dioxid is diminished. This is accompanied by an accumulation of the carbonaceous materials of the body, and the actual deposit of fat or a sparing of protein, one or the other of these latter effects being certain to follow any cause which will decrease the excretion of carbon dioxid. Many jump at once to the conclusion that any substance which can cause a sparing of protein or of fat or both must of necessity be a food. But that conclusion does not by any means follow. There is a very closely veiled fallacy in the course of reasoning which leads to such a conclusion, and many have passed it by without recognizing it. That is especially the case with those who take account of ingesta and egesta alone, without trying to follow the changes which take place within the cells.

Let us unveil the fallacy. Under conditions of normal activity a cell will catabolize—or, we may say, oxidize—a certain amount of matter drawn immediately either from the cell-sap or from the living cell-substance itself. This matter is in part nitrogenous and in part non-nitrogenous. All food is "tissue-building" in its assimilation, and all food is "energy-liberating" in its oxidation. To arbitrarily differentiate between tissue-building and energy-liberating is wholly unwarranted in the light of modern research in cell physiology. So the cell under normal conditions will oxidize a certain amount of its matter. This oxidation will yield the energy required for the vital processes, and will also yield certain products of decomposition. The non-nitrogenous molecules will, on oxidation, yield carbon dioxid and water; while the nitrogenous molecules will yield carbon dioxid, water and urea or allied nitrogenous excreta.

Let us suppose that the cell is in a condition of carbon and nitrogen equilibrium, i. e., that it gives out daily in its excreta an amount of carbon and nitrogen equal to that of the food which it assimilates. If under these conditions a little more food be absorbed by the cell, one or the other of two things will happen; either there will be a greater cell-activity—muscular, nervous or secretory—with a correspondingly greater output of carbon dioxid with some increase in the nitrogenous excreta; or there will be an accumulation of fat or protein within the cell. The cell-activity being governed by the central nervous system rather than by the simple presence of increased food, the second alternative will be the one most uniformly observed. That is, if we give more food, we will get an accumulation of the excess as a reserve. Now suppose that without any excess in the food-supply the central nervous system causes a decrease of cell-activity throughout all of the active tissues, there will be an accumulation of unused food materials within the active cells or within the storage tissues. This nervous influence upon the oxidation of food materials may be produced by morphin. After the administration of morphin there will be an accumulation or a "sparing" of both carbonaceous and protein food materials, or tissues, providing the ingested food is normal in amount. Boecker[14] found, by experiments upon dogs, that after the animals were brought into a condition of nitrogen equilibrium, the administration of morphin with the food in a quantity to produce its typical physiologic effect caused the proteid catabolism to be decreased 6 per cent., and the excretion of carbon dioxid was decreased 27 per cent.

If we were to take into account simply the balance of ingesta and egesta we might reason thus: The addition of food to an animal in carbon and nitrogen eqilibrium leads to an accumulation of carbon and nitrogen in reserve, all other things remaining the same. The addition of morphin to the food of an animal in carbon and nitrogen eqilibrium leads to an accumulation of carbon and nitrogen in reserve, all other things remaining the same. Therefore, morphin must be a food.

The fallacy of this reasoning is apparent only when we take into consideration the vital process of the cell. Morphin depresses the activity of the cell, oxidation is decreased, less cell-substance is decomposed, the amount of matter absorbed remaining the same, there must be an accumulation of carbon and nitrogen in the cell. Notice the difference between the two cases: With increased food, the activity remains the same or is increased and the result is an accumulation of carbon and nitrogen or greater activity with increased carbon dioxid and nitrogen excretion. With the influence of morphin, the activity is always decreased, and the excretion of carbon and nitrogen is always decreased. With both there is an accumulation of food materials or of cell-substance; thus the final chemical effect of morphin is similar to that of increased food ingestion. But the total effect upon the vital processes within the cells is as nearly opposite as it is well possible to be: Increased activity and increased excretion with increase of food; but decreased activity and decreased excretion with morphin.

Morphin is a narcotic. All narcotics depress vital activity. Brunton, Cushny, Blyth, and all the newer authorities on pharmacology and toxicology agree that alcohol is a narcotic in both small and large doses. All who have experimented with alcohol in its relation to the output of carbon dioxid agree that it is diminished. This result is in perfect harmony with the general narcotic effect, and simply means that cell-activity is diminished.

To demonstrate that alcohol "spares carbonaceous and protein foods and tissues" is simply to prove that it is narcotic in its effect upon cell-activity unless it can be demonstrated that the consumption of oxygen and the output of carbon dioxid are either normal or increased. But these gases are always decreased in their interchange, after ingestion of alcohol in even moderate quantities. Alcohol then can not be a food; it is a narcotic.

Listen to the testimony of Austin Flint[15] upon this question: "The immediate effects of the ingestion of a moderate quantity of alcohol, continued for a few days, are decided. It notably diminishes the exhalation of carbon dioxid and the discharge of other excreta, especially urea. Proper mental and physical exercise and all conditions which favor the vigorous nutrition and development of the organism physiologically increase rather than diminish the quantity of the excreta. They correspondingly increase the demand for food, and if continued are of permanent benefit. Alcohol, on the other hand, diminishes the activity of the nutrition."

Rolleston[16] says that "alcohol forms with the hemoglobin of the red blood-corpuscles a compound which takes up and parts with oxygen less readily than normal hemoglobin. This leads to a general diminution in the metabolism of the body and as a result the amount of fat in the body may become increased. . . Partly as a result of its action as a functional poison on the tissues of the body (especially the nerve cells, mentioned in an accompanying paragraph) and partly from its influence on hemoglobin, the metabolism of the tissues is diminished by alcohol."

It is thus demonstrated on indisputable grounds that the only two claims that the friends of alcohol have advanced for its recognition as food are based upon misinterpreted facts, and an archaic misconception of fundamental biologic and physiologic principles, and that the whole argument for alcohol is a superstructure of fallacies hardly less notable, when we consider the men who have lent their names and their reputations as scientists in a vain attempt to gain them credence, than the notorious "Moon Hoax" or the often advanced and as often refuted "Spontaneous Generation" fallacy.

HOW ALCOHOL INFLUENCES CERTAIN PHASES OF METABOLISM.

We may close the case against alcohol by making a very brief presentation of some of the effects of alcohol on some of the most important manifestations of life.

ALCOHOL AND BODY-TEMPERATURE.

Professor Atwater follows Liebig of a half-century past in placing alcohol among the heat-producing foods. We must all agree that alcohol is largely oxidized in the body to carbon dioxid and water. It yields just as much heat incident to its oxidation in the body as it would if oxidized outside of the body; so do morphin, the ptomains and the toxins. But the case is stronger against alcohol and morphin than against the ptomains and toxins because the narcotic action of alcohol on the cutaneous vasomotor system causes the temperature of the body to fall, notwithstanding the added heat from the oxidation of the alcohol. When given in doses that produce the flushing of the cheeks, very moderate doses by the way, there will always be a fall in body-temperature slight or marked, commensurate with the dose. This effect is produced through the combined action of alcohol upon the heat-generating factor as well as upon the heat-dissipating factor of body-temperature.

As above stated, alcohol lessens cell-activity and thus lessens the generation of heat by the active tissues. Von Bunge says:[17] "Even if alcohol does on the one hand increase the heat-formation through its own oxidation, it, on the other hand, increases the heat radiation. Through the paralyzing action which it exerts upon the vasomotor centers there occurs a dilatation of the vessels, especially those of the skin, and this leads to increased loss of heat. The total result is, in any case, a lowering of body-temperature which has been conclusively demonstrated."

Landois[18] mentions the danger of taking either alcohol or morphin when the body is to be subjected to extreme cold. All Northern explorers know that the use of alcohol endangers life through the cooling of the body. Brunton[19] tells a well-authenticated incident in this connection: "A party of engineers were surveying in the Sierra Nevadas. They camped at a great height above the sea level where the air was very cold and they were chilled and uncomfortable. Some of them drank a little whiskey and felt less uncomfortable; some of them drank a lot of whiskey and went to bed feeling very jolly and comfortable indeed. But in the morning the men who had not taken any whiskey got up in good condition; those who had taken a little whiskey got up feeling very miserable; the men who had taken a lot of whiskey did not get up at all; they were simply frozen to death. They had warmed the surface of their bodies at the expense of their internal organs.'

ALCOHOL AND MUSCULAR WORK.

It has been so frequently demonstrated that alcohol in even moderate doses impairs the muscular action both in power and agility that all athletes abstain totally from it during training as well as during the contests. Prize fighters, though plying their trade especially in the interests of the drinking and gambling element of society, are not allowed an ounce of whiskey or brandy for weeks before a contest.

Several European governments have made comparative tests of sugar and of alcoholic drinks for soldiers on forced marches. These tests have invariably resulted in alcoholic drinks being withheld during all strenuous work and sugar or sweet chocolate being given with the rations for such occasions.

Leitenstorfer's[20] extensive experiments on sugar and alcohol resulted in recommendation to the commissariat of the German Army—later adopted in the main—that sugar be used: 1, as a supplementary article to improve the daily rations of the soldier; 2, as a reserve supply in ships; and, 3, as a temporary ration to strengthen the soldiers and sustain their vigor while on the march.

The *Revue Scientifique,* in commenting upon the experiments of Leitenstorfer, says: "Sugar appears to be indicated to replace alcohol or wine under the various conditions when it is commonly considered desirable to include the latter in rations. Sugar affords stimulation, but without any danger. It has, moreover, the incontestable advantage of being a muscular aliment of the first rank, combating and at the same time preventing fatigue."

Bunge[21] says of these "army experiments:" "Better than through all the laboratory experiments and deductions is the demonstration of the complete uselessness, indeed harmfulness, of even the most moderate doses of alcohol, which demonstration has been made through the thousand-fold experiments by the commissariat of the army and which have already established conclusively that soldiers in times of peace and in times of war, in all climates, in heat, cold and rain, endure best all the fatiguing exertions of the most exhausting marches and maneuvers when they are absolutely deprived of all alcoholic drinks."

ALCOHOL AND THE WORK OF THE NERVOUS SYSTEM.

Even the most enthusiastic friends of alcohol admit that in more than moderate doses it is a narcotic poison to the nervous system. But the best and latest authorities all agree that its action upon the nervous system is always that of a narcotic, whether the doses be small or large. In this connection one needs only to cite such authorities as Brunton[22] of London, Edes[23] of Harvard, and Cushny[24] of Ann Arbor, all of whom state in unequivocal terms that alcohol is a narcotic in small, as well as in large, doses.

Brunton modified Francis Garton's instrument for measuring the speed of mental processes. As modified it measured: 1, the time required for simple reaction, i. e., the time to indicate the seeing, hearing, or feeling of a signal; (.18 sec.) 2, the time required for discrimination, e. g., to indicate whether one sees a red or a white object; (.24 sec.) 3, the time required for decision, i. e., whether to press one button or another in response to varying signals; (.36 sec.) Summing up the experimental work on this subject Brunton says: "Alcohol increases the reaction time, the time for discrimination and the time for decision. It makes all the nervous processes slower, but, at the same time, it has the curious effect of producing a kind of mental anesthesia so that all these processes seem to the person himself to be quicker than usual, instead of being as they really are much slower. Thus a man, while doing things much more slowly than before, is under the impression that he is doing things very much more quickly. What applies to these very simple processes applies also to the higher processes of the mind. A celebrated author once told me that if he wrote under the influence of a small quantity of alcohol, he seemed to himself to write very fluently and to write very well, but when he came to examine what he had written, the next day, after the effect of the alcohol had passed off, he found that it would not stand criticism."

ALCOHOL VS. FOOD IN NUTRITION.

In closing it will be interesting to set over against each other, in parallel columns, some of the demonstrated facts which we possess regarding alcohol and food in their relation to nutrition.

THE TRUTH ABOUT ALCOHOL.	FOOD.
1. A certain quantity will produce a certain effect at first, but it requires more and more to produce the same effect when the drug is used habitually.	1. A certain quantity will produce a certain effect at first, and the same quantity will always produce the same effect in the healthy body.
2. When used habitually, it is likely to induce an uncontrollable desire for more, in ever increasing amounts.	2. The habitual use of food never induces an uncontrollable desire for it, in ever increasing amounts.
3. After its habitual use a suden total abstinence is likely to cause a serious derangement of the central nervous system.	3. After its habitual use a sudden total abstinence never causes any derangement of the central nervous system.
4. Alcohol is oxidized rapidly in the body.	4. All foods are oxidized slowly in the body.
5. Alcohol, not being useful, is not stored in the body.	5. All foods, being useful, are stored in the body.
6. Alcohol is a product of decomposition of food in the presence of a scarcity of oxygen.	6. All foods are the products of constructive activity of protoplasm in the presence of abundant oxygen.
7. Alcohol is an excretion and, in common with all excretions, is poisonous. It may be beneficial in certain phases of disease, but it is never beneficial to the healthy body.	7. All foods are formed by nature for nourishment and are by nature wholesome and always beneficial to the healthy body, though they may injure the body in certain phases of disease.
8. The use of alcohol, in common with narcotics in general, is followed by a reaction.	8. The use of foods is followed by no reaction.
9. The use of alcohol is followed by a decrease in the activity of the muscle-cells and the brain-cells.	9. The use of food is followed by an increased activity of the muscle-cells and brain-cells.
10. The use of alcohol is followed by a decrease in the secretion of CO_2.	10. The use of food is followed by an increase in the excretion of CO_2.
11. The use of alcohol is followed by an accumulation of fat through decreased activity.	11. The use of food may be followed by accumulation of fat, notwithstanding increased activity.
12. The use of alcohol is followed by a fall in body-temperature.	12. The use of food is followed by a rise in body-temperature.
13. The use of alcohol weakens and unsteadies the muscles.	13. The use of food strengthens and steadies the muscles.
14. The use of alcohol makes the brain less active and accurate.	14. The use of food makes the brain more active and accurate.

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SUBSTITUTE INFANT-FEEDING.

HENRY DWIGHT CHAPIN, M.D.

Professor of Diseases of Children at the New York Post-Graduate Medical School and Hospital.

NEW YORK CITY.

The question of the home preparation of an infant's food is one that occasions more or less difficulty to the average practitioner. Very little disturbance of digestion is caused by average breast milk but when it comes to bottle-feeding, trouble often appears, and here the physician has abundant opportunity to show his knowledge of dietetics. There is no end to the number of the so-called "perfect substitute for mother's milk" that are widely advertised, but the mainstay of successful bottle-feeding is good cow's milk. Anything else must be only a temporary substitute. The infants who can not take properly prepared cow's milk are very rare. The trouble often comes from the inability of the physician to properly modify the milk, so as to make it suitable for the case in hand. It is impossible to lay down fixed rules for infant-feeding, as each case must be treated by itself, but there are certain underlying principles involved which, if understood, will greatly simplify the problem.

The important things to know are, first, how to secure good cow's milk, and, second, how to change or modify it so that it shall be as near as possible an approach to mother's milk in composition and digestibility. The first problem before the physician is to secure a supply of good fresh milk. This can be had anywhere, by the exercise of a little care. Let the cows be cleaned as thoroughly as horses, and the udders and sides wiped off with a damp cloth just before milking. Let the milking be done with clean, dry hands, into a clean pail, held close to the udder. The first stream or two from each teat should be thrown away, and not allowed to get into the pail, for during intervals between milking, bacteria from the air get into the cow's teats, and grow with wonderful rapidity. By throwing away the first few streams, at the beginning of the milking, these are disposed of. If the sides of the cow are plastered with dirt and manure, as is often the case, a certain amount is sure to fall into the pail of milk. This is where the trouble really begins, for this dirt and manure abounds in bacteria. Over two hundred species of bacteria have been found in milk, about twenty of which produce lactic acid. Other species produce ropy, slimy, blue and red milk, also alkaline products. These bacteria themselves are practically harmless, but the products of their growth may seriously affect the healthfulness of milk. Pathogenic bacteria are occasionally found in milk, but they get there almost invariably through the water used in washing the milk cans or bottles, or from the skin of some infected attendant. Tubercle bacilli are found in milk from cows with tuberculous udders, but the danger of infecting human beings is thought to be greatly overrated. Tubercle bacilli do not grow in milk.

As soon as each cow is milked, the milk should be run through an aerator and cooler, in a room free from bad odor or tobacco smoke, and then kept as cool as possible until used. It is obvious that cows should be stabled in clean, well-ventilated barns. These conditions should be possible everywhere, and if the physician will insist upon their observance on the part of dairymen, the problem of a proper milk-supply will be largely solved.

The prompt and rapid aeration and the cooling of milk are matters of importance. The temperatures at which bacteria in milk grow most rapidly are those near

body heat. There is practically no growth when the temperature is below 50 degrees F. It has been proved that bacteria which increased two hundred fold in four hours, at 93 degrees F., increased only eight fold at 55 degrees F., so the necessity of cooling the milk immediately after milking will be apparent.

Combined aerators, strainers and coolers, suitable for use with well-water or ice-water, can be had at any dairy-supply house, at a small cost. By using one of these, the cow odor, the animal heat, and most of the dirt can be removed from milk in a few minutes. The milk of a herd of cows can then be mixed and bottled, or canned and packed in ice, or, as is often done, lowered into a well or set in a cool spring. Such milk will keep well, while milk "warm from the cow" soon spoils.

Sometimes dairymen add preservatives to their milk, to keep it sweet. The articles most commonly used are boric acid, borax and formaldehyde. Formaldehyde is particularly objectionable, as it renders the curds exceedingly tough. It can be detected by adding to a small quantity of slightly diluted milk an equal quantity of commercial sulphuric acid. Pour the milk into a test-tube or flask, and then allow the acid to run in, so as not to mix with the milk. A violet color will appear at the junction of the two liquids, if formaldehyde is present, and the curd of the milk will dissolve slowly when the tube is shaken.

In selecting cow's milk for infant-feeding, that which is clean, aerated, cooled and bottled immediately after milking, and kept below 60 degrees F., until delivered, is the article to be chosen by the physician. The richness of milk and cream depends upon the breed of cattle supplying the milk. In most of the states that have dairy laws, the minimum amount of butter fat allowed in the milk is 3 per cent. In actual practice milk varying between 3 and 5 per cent. butter fat will be met.

In reference to the production of butter fat, cows may be roughly divided into three classes: 1. Fancy, full-blooded Guernseys and Jerseys, giving milk containing 5 per cent. and over; 2, ordinary Jerseys and Guernseys, known as "butter cows," giving milk containing 4 per cent. and over; 3, Ayrshires, Holsteins and common stock, known as "milk cows," giving milk containing 3 per cent. and a little over.

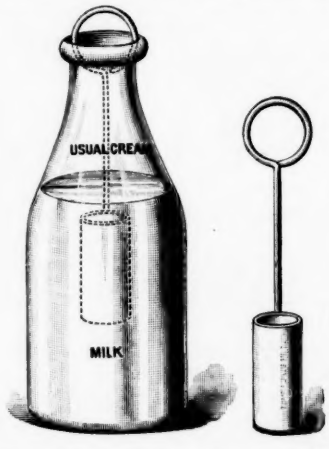
A physician in a given neighborhood should find out what breeds of cattle supply the milk to the vicinity, in order to know about the proportion of butter fat contained in the milk. The milk of one dairyman will run quite uniform from day to day, as the variations in the milk of individual cows will compensate each other.

In mother's milk the fat is usually between 3 and 5 per cent., or nearly three times the proteids, which vary from 1 to 2 per cent.; while the sugar is between 6 and 7 per cent. As noted above, cows' milk will contain from 3 to 5 per cent. butter fat, while the proteids average about 4 per cent., and the sugar from 4 to 5 per cent. It is pretty well settled that in mixed cows' milk, the proteids about equal the fat, when the fat does not exceed 4.5 per cent. When the fat in the whole milk is above 4.5 per cent. the proteids are a little less than the fat.

While in most cases, a medium grade of milk will be supplied, especially in towns and cities, still, we must be prepared to properly modify either very rich or poor milk. An easy way of calculating percentages, is to take advantage of the process known in the dairy industry as the "deep setting process of creaming." This consists in putting milk into tall, narrow vessels and cooling to about 40 degrees F. After twelve to twenty-four hours practically all the fat of the milk will be found in the creamy layer, the remaining milk often containing no more than .2 to .5 per cent. Milk that has been bottled and kept cool for twelve to twenty-four hours, is subjected to the conditions necessary for successful "deep setting" creaming, and usually contains a layer of cream in the neck of a quart bottle, between three and four inches deep, measuring from the top, or about six fluidounces. The line separating the cream from the remaining milk is distinct. Unless the creamy layer is distinct when the milk is delivered, it is probable that bottling has not been done at the dairy, but in the town or place of delivery. Not only is the proper creaming thus interfered with, but the chances of contamination are increased.

By taking all of the cream and part of the remaining milk from the quart bottle of milk and mixing in certain proportions, top milks, rich or poor in fat, can be had, that may be utilized in feeding the infant. Top milks can be prepared in which the fat is one and one-half to five times the proteids.

In the home modification of milk, by means of this bottled milk, the cream is readily and accurately separated from the remaining milk by means of a dipper measuring exactly one fluidounce. The first dipperful, or ounce, is taken off with a teaspoon, otherwise, the milk would spill over when the dipper is let down. The



successive ounces of cream are then easily removed, by even an unskillful hand, without jarring, siphoning or other manipulation.

The following assays, made by the Babcock method, show the percentages of fat in different top milks, taken from quart milk bottles, and represent low, medium and high grade milk, which was bottled in the country:

Fat in whole milk	3.1	4.3	5
Fat in Top 9 ounces	9.2	12.4	14.6
Fat in Top 10 ounces	8.37	11.2	13.2
Fat in Top 11 ounces	7.7	10.4	12.1
Fat in Top 12 ounces	7.0	9.6	11.1
Fat in Top 13 ounces	6.6	9.0	10.4
Fat in Top 14 ounces	6.2	8.4	9.7
Fat in Top 15 ounces	5.8	7.9	9.0
Fat in Top 16 ounces	5.5	7.5	8.6

Proteids and sugar are assumed to be 4 per cent. each.

It will be noticed that the first nine ounces or dipperfuls contain about three times as much fat as the whole milk in all three grades. This rule held good in thirty quarts of bottled milk on which the cream had risen, obtained of different dealers.

For matter of easy calculation, it is assumed that the proteids and sugar are 4 per cent. each. In practice, all that is necessary is to dip off top milk of any desired richness, and dilute it, two, three, four, five, six or eight

times. If about 3 per cent. of fat and 1 per cent. of proteids is desired, nine ounces will be dipped out of the bottle of milk on which the cream has risen. If it is poor, bluish-colored milk, it will be diluted three times, that is, one-third of the desired mixture will be top milk. If the milk is of a fair degree of richness, it will be diluted four times—one-quarter of the desired mixture will be top milk. If the milk is very rich, it will be diluted five times—one-fifth of the desired mixture will be top milk. By dividing the figures in the table by the dilution, average percentages will be obtained. This is as near to accuracy as percentage feeding can be brought at home, and is sufficient for the vast majority of cases. The proper percentages for each child are obtained by increasing or decreasing the richness and the dilution of the top milk. What is needed in a given case is a dilution of cow's milk that will agree with the baby we are trying to feed, rather than the procuring of figured percentages. By this method every physician can vary the strength of the milk in a sliding scale by directing the number of ounces to be dipped out of the bottle of milk, and thus tentatively reach the strength that is suitable for the infant's digestion.

For every twenty or twenty-five ounces of food, add one ounce of sugar, in order to bring this element up to the proper proportion. One part of sugar to 20 parts of food yields 5 per cent; to 25 parts, 4; to 33 parts, 3; to 50 parts, 2 per cent. An even tablespoonful of granulated sugar equals half an ounce approximately, and one scant teaspoonful equals a dram. Half again as much milk sugar equals the same weights.

The next important step is to get the cow's milk as nearly as possible in the same physical condition as mother's milk. The diluent I prefer to use is a wheat, barley or oatmeal gruel, the starch of which has been digested or dextrinized by the action of diastase. A heaping tablesponful of flour, made from a cereal, is boiled with about a pint and a half of water for fifteen minutes. It is then removed from the stove and set in cold water for about three minutes to cool it. When it is sufficiently cool to taste, a teaspoonful of a preparation of diastase is added, which renders the gruel thin and watery. This makes about a pint of gruel, containing the starches in soluble form, while the cellulose or skeleton of the cereal acts as a most effective attenuant of the curd. These digested gruels render the milk curds porous, and also provoke the secretion of the digestive juices. As diluents, they are a great improvement on water. Most of the thick malt extracts are sufficiently active in diastase to produce the desired effect. The writer, however, prefers the employment of diastase itself, without any of the other malt ingredients, as being both speedy and efficient. It can either be produced cheaply at home, or purchased at the nearest drug store. A simple decoction of diastaste may be made as follows: A tablespoonful of malted barley grains is put in a cup, and enough cold water added to cover it, usually two tablespoonfuls, as the malt quickly absorbs some of the water. This is prepared in the evening and placed in the refrigerator over night. In the morning the water, loking like thin tea, is removed by a spoon or strained off, and is ready for use. About a tablespoonful of this solution can be thus secured, and is very active in diastase. It is sufficient to dextrinize a pint of gruel in ten to fifteen minutes. Preparations of diastase are made by a number of chemists—Forbes, Parke Davis & Co., Horlick and others. There is now obtainable an active glycerite of diastase known as Cereo, which is specially made for the purpose of dextrinizing gruels.

Now the question of Pasteurization—heating to 167 degrees F.—or sterilization—heating to 212 degrees F.—arises. It should be remembered that the object of Pasteurizing and sterilizing milk is to kill the bacteria, and in that way make the milk suitable for infant-feeding. If the milk was originally clean, cooled immediately after being drawn, and kept cool, there would be no need of heating the milk to kill bacteria. In the summer time, where it is impossible to keep the milk below 60 degrees F., it is best to have it Pasteurized as soon as it is received.

It is often recommended that lime-water or bicarbonate of soda be added to milk, when it is slightly acid. The acidity of milk is caused by bacteria that produce lactic acid. If the acid is neutralized, the bacteria will produce more acid, unless the milk is either kept cool or heated to destroy the bacteria.

There are cases constantly arising where milk must be withheld for a time, or given only in small quantities. Here is where the judgment of the physician may be put to a severe test. The symptoms that call for a modification or a change of diet, are vomiting, colic, and unnatural stools. A brief glance at these conditions may be helpful to some in applying dietetic remedies.

Vomiting.—When vomiting occurs immediately after feeding, it is probably caused by a simple distension of the stomach, and less bulk of food is accordingly indicated. The vomiting that occurs some time after feeding is apt to be caused by undigested food, the rejections are frequently highly acid, and there may be curds and mucus present. Projectile vomiting, where food is rejected with force, is an indication of brain irritation.

Colic.—Colic may be caused by cold, but is more frequently induced by the fermentation of indigestible food.

Condition of the Stools.—Much may be learned by a careful inspection of the stools, with reference to increasing or diminishing the various kinds of food. The normal infant stool is smooth, yellow, homogeneous, and about the consistency of thin mush. The following may be considered abnormal types:

1. Green Stools.—Stools can only be considered green when that condition is evident immediately upon their passage. They are due to a fermentation, which is doubtless the result of bacterial action. All stools become green a certain time after passage, caused by oxidation of the air.

2. Curdy Stools.—Curdy lumps may be produced by undigested casein or fat. The former are hard and yellowish, white the latter are soft and smooth, like butter.

3. Slimy Stools.—These are the result of catarrhal inflammation. When the mucus is mixed with the fecal matter, the irritation is high up in the bowel, but when flakes or masses of mucus are passed, the trouble is near the outlet.

4. Yellow, Watery Stools.—These are seen in depressed nervous conditions, especially in the hot days of summer, when the bowel is relaxed, and the inhibitory fibers of the splanchnic nerve do not act to advantage.

5. Very Foul Stools.—These are caused by decomposition of the albuminoid principles of the food.

6. Profuse, colorless, watery stools, with little fecal matter, are doubtless caused by an infective germ, akin to that of Asiatic cholera. This is known as *cholera infantum.*

It is rare to see one of these types by itself. With the exception of the last, they may be seen in all combinations.

In slight forms of unnatural stools, increase the dilution of the top milk, and reduce the quantity of sugar slightly. If large lumps of fat are in the stools, use milk containing less fat for diluting; this can be obtained by taking more top milk out of the quart bottle. Where lumps of casein are apparent, the diluent must be increased. If increasing the dilution and reducing the fat and sugar does not overcome the trouble, stop the milk and feed dextrinized gruel for a day, gradually adding a little milk, which is increased in amount as fast as the infant can digest it.

There are times when infants can not digest milk in any form, no matter how much it may be diluted, nor what diluent is employed. They may then be given mutton broth, from which the fat has been removed, extracted beef-blood and water, dextrinized wheat or barley gruel, or dextrinized gruel, to which either the white or yolk of an egg has been added.

The following will show the food principles obtained by such egg mixtures:

Dextrinized gruel and white of egg.—Dextrinized wheat-flour gruel, 8 fluidounces, white of one egg—581 grains (large egg).

About 2 per cent. proteids (egg 1.25, gruel .75), 4 per cent. soluble carbohydrates.

Putting two even spoonfuls of granulated sugar into this mixture, 3 per cent. of sugar is added, which, with the 4 per cent. of digested starch, makes 7 per cent. total soluble carbohydrates.

White of egg contains 85 to 88 per cent. water; .07 per cent. salts; 10 to 13 per cent. proteid bodies, made up of albumin, gobulin and mucoid substance and traces of fats, lecithin and cholesterin.

Dextrinized gruel and yolk of egg.—Dextrinized wheat-flour gruel, 8 fluidounces, yolk of one egg—288 grains (large egg.)

About fat 1.7, proteids 1.7, (egg 1., gruel .70) and 4 per cent. soluble carbohydrates.

By putting two even spoonfuls of granulated sugar into this mixture, 3 per cent. of sugar is added, which with the 4 per cent. of digested starch, makes 7 per cent. total soluble carbohydrates.

Yolk of egg contains about 47.19 per cent. water and 52.81 per cent. solids, made up of 15.63 per cent. proteids, .96 per cent. salts, 22.84 per cent. fat, 10.7 per cent. lecithin and 1.75 per cent. cholesterin. Proteids of yolk contain phosphorus and iron, which is of great importance in the formation of blood, and a pseudonuclein which is also found in casein of milk. These are not present in the proteids of the white of egg. Lecithin, which also contains phosphorus, is undoubtedly "a very important material for building up of the complicated phosporized nuclein substance of the cell and cell nucleins." Lecithin is also found in milk, especially woman's milk.

THE SPECIFIC TREATMENT OF CROUPOUS PNEUMONIA.*

WILLSON O. BRIDGES, M.D.

OMAHA, NEB.

The mortality of croupous pneumonia is greater than that of any other acute disease; higher than that of diphtheria, and next below that of tuberculosis. The mortality statistics in private and hospital practice show a percentage of from twenty to forty. The census of 1890 indicated that 76,496 persons died of pneumonia in the United States during the preceding year, a death-rate of 186.94 per 100,000 of population. The census reports of 1870, 1880 and 1890 show that the deaths from this disease have slightly increased. It is the most wide-spread of all acute diseases.

It is nearly twenty years since Fränkel discovered the diplococcus lanceolatus and established its causative relation to croupous pneumonia, since which time renewed efforts have been, and are being, made for the discovery of a specific prophylactic and curative agent. Some years ago the Klemperers demonstrated that the injection of blood-serum, obtained from one who had recently recovered from pneumonia, conferred immunity in some of the lower animals, and it was hoped that an antitoxic serum would be obtained which would be prophylactic and curative in man. While some favorable results from the injection of 20-c.c. doses have been reported by a number of observers, the treatment has not as yet gained a foothold. Various drugs have been from time to time advocated as specifics; long before the antimicrobic theory of treatment was suggested, calomel in large doses—20 to 40 grains—quinin in amounts of from 30 to 50 grains daily, veratrum viride in doses sufficient to bring and maintain the pulse below sixty, had the endorsement of many competent observers whose reports were certainly commendatory. The same may be said of venesection, which at one time was supposed to be the treatment *par excellence*. To-day the teaching is that the expectant plan with the meeting of indications by appropriate symptomatic remedies yields as good results as have heretofore been obtained; and there is much less probability of doing harm. Osler states in his 1899 edition that "Pneumonia is a self-limited disease which can neither be aborted nor cut short by any known means at our command. Even under the most unfavorable circumstances it may terminate abruptly and naturally without a dose of medicine having been administered. There is no specific treatment for pneumonia. The young practitioners may bear in mind that patients are more often damaged than helped by the promiscuous drugging which is still only too prevalent." The remedies advocated as specifics before the expectant plan was adopted were selected because of their antiplastic, antiphlogistic and antipyretic properties. Pneumonia was then supposed to be an inflammatory disease and was to be combated like any other inflammation. Calomel acquired its adherents because of its supposedly antiplastic effects, veratrum viride, on account of its antiphlogistic properties, and quinin because of its power over fever.

Flint made a long step in advance, when he announced his conviction that pneumonia was not simply an inflammatory disease of the lungs, but an essential infectious fever with pulmonic inflammatory manifestations. He it was who advocated large doses of quinin on this hypothesis. He writes, "As long ago as 1861 I was led, by the results of the analysis of a considerable number of cases in which sulphate of quinin was given to the extent of only 15 grains daily, to the conclusion that this remedy exerted a marked causative influence on the disease. I can now (1881) bear testimony to the fact that given in large doses, namely 20 to 30 grains daily, this remedy in a certain proportion of cases renders the disease abortive, and that when this does not follow, the disease is often modified to a greater degree than by smaller doses. Now, whatever efficacy belongs to the remedy proceeds evidently not from any direct effect upon the pul-

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monary affection, but from a controlling influence over the pyrexia, thus sustaining the doctrine that the disease is an essential fever."

The newer pathology of a pneumococcus infection was but a step in advance of Flint's doctrine, for it determined the actual cause of the infection. It holds that the disease is a general toxemia—resulting from the formation of toxins, produced by the development of the diplococcus in the lung, having a varying effect on the nervous system, the circulation, and the digestive tract, plus an inflammatory condition of the pulmonary vesicular walls and smaller bronchi, the direct irritative effect of the bacterial growth, which results in an exudate filling the air-vesicles and thus interfering with the functional pulmonary circulation and respiration by mechanical pressure. With what we believe now to be the true pathology of croupous pneumonia, may we not hope that a true specific will be found, or are we to calmly sit by the bedside and study the interesting clinical phenomena awaiting the crisis or a fatal termination with only symptomatic treatment? The true specific which shall be applicable to all cases must either inhibit the development of the pneumococcus in the lung—by directly destroying it or by rendering its environment inimical to its growth—or act as an antidote to the toxins produced. It must at the same time be innocuous. With these thoughts in mind I treated a severe case of embolic pneumonia of streptococcus origin nearly two years ago, by means of large doses of guaiacol carbonate, with good results, and was on this account deeply interested in a paper on "The Treatment of Pneumonia as Based Upon Recent Views as to Its Pathology," by Andrew H. Smith, of New York, and published in the *Medical News*, Dec. 6, 1899, in which he urges very strongly the use of guaiacol carbonate or the salicylates as a specific in this disease. He refers to Robinson and Kerr, who are recent enthusiastic advocates of the use of creosote both by the stomach and by inhalation. The great advantage of this remedy is that it can be taken in large doses without harm and that, being eliminated in part through the lungs, it has a double action. E. Congier in an inaugural address published in 1898, showed that the carbonate can be taken in very large doses up to a dram or more, without any irritation of the stomach, and that being slowly decomposed in the intestine, it liberates the creosote so that the blood is constantly charged with it even when there are six to twelve hour intervals between the doses. Thirteen cases from the clinic of Dr. Cassonte, of Marseilles, are reported in this paper, three of lobar and ten of catarrhal pneumonia, in which the carbonate was practically the only remedy employed. In every instance the effect upon the temperature was most marked, defervescence occurring promptly in the cases of lobar pneumonia, while in the catarrhal the severity and the duration of the attack were proportionately lessened. Dr. Wm. H. Thomson, of New York, in the discussion of Dr. Smith's paper before the New York Academy of Medicine, said, "Recently, in cases of double pneumonia, I have had excellent success with 20-grain doses of creosote carbonate administered every two hours. A very palatable emulsion can be made of the drug and patients take it readily. I have had three most unpromising double pneumonias recently recover under this treatment."

Robert Liegel, in 1898, reported seventy-two consecutive cases of recovery from pneumonia under the salicylate treatment. The patients were from 16 to 74 years of age. Eight had emphysema, six cardiac disease and a large proportion were alcoholics. The drug used was the sodium salicylate in large doses, not less than 120 grains daily. No other drug was used excepting an expectorant and small doses of morphin when pain was excessive. Under this treatment not only did recovery ensue in every case, but the duration of the attack was materially lessened and in no case did crisis occur, the temperature declining after the first day, reaching the normal by the fifth, when convalescence was established. The expectoration soon became catarrhal and the physical signs did not fully develop, or where they did rapidly retrogressed. In the first cases treated the remedy was suspended too soon, and a relapse occurred. After this was observed the drug was continued several days after convalescence, when no further tendency to relapse was manifested. Previous to the adoption of this treatment the management of the disease had been unsatisfactory and the mortality high. Liegel believes that the salicylate exerts a specific effect on the mucous membrane, increasing its secretion and throwing off the exudate. Dr. Smith believes that Liegel did not grasp the antibacterial idea of the action of the drug. He states that his own experience with this line of treatment has been encouraging, though not large. He has used all of the drugs which have appealed to him as specifics, with the exception of quinin, which has seemed too slow in action and too distressing to the stomach. He prefers the creosote carbonate to the salicylates, because of the gastric irritation often produced by the latter and its depressing effect upon the heart in the later stage of the disease. So enthusiastic is Dr. Smith in his belief of the efficacy of this plan of treating pneumonia that he urges the family physician "to provide his families with creosotal or one of the salicylates and to instruct them that with the slightest chilly sensation or the slightest stabbing pain in the lung, a dose is to be given at once, and that this dose is to be repeated at stated intervals until the physician arrives. This might prevent the development of pneumonia in some cases and shorten the attack in others."

Have we a specific for pneumonia in these two drugs, and by this I mean a remedy which will apply to all cases on antibacterial grounds, which will do no harm and which will not in any way interfere with the treatment of symptoms? This question I have attempted to solve to my own satisfaction during the past winter when I have had an opportunity to put it in practice, and I append a few illustrative cases, some of which were exceedingly severe.

CASE 1.—Mr. H., aged 35, single, accountant, had pneumonia several years before. When in apparent good health, he was seized with a shaking chill lasting one-half hour attended by severe pain under right nipple and a slight cough. Recalling his former experience he at once went to bed and I was summoned. On reaching him two hours later I found him with acute pain in the right side, temperature 101, pulse 96, respiration 24. During my visit he coughed and expectorated the typical rusty sputum. On physical examination there was diminished expansion of the right side, lessened pulmonary resonance in the lower right mammary region, and characteristic crepitant râles over a part of this area. He was given a prolonged hot bath, 5 grains of calomel, followed by a saline; a mustard and flax-seed poultice was applied to the chest and 15-gr. doses of salicylate of sodium were administered every two hours; and I enjoined absolute rest in bed after the bath, and liquid diet. In eighteen hours the pain was much less, he sweated freely, his temperature was 99.5, pulse 90, respiration 24, no further physical signs. Several

times he had raised bloody sputum. Salicylate intervals were increased to three hours. In twenty-four hours later the temperature was normal, pulse 80, respiration 20, sputum only slightly tinged. From this time he went on to complete convalescence, the salicylate being kept up for five days more at longer intervals.

CASE 2.—Miss E., aged 30, single, teacher, three days before my first visit had a severe chill while at work, followed by lancinating pain in the right side, and dry hacking cough with fever, severe nausea and vomiting, the latter occurring several times. On first examination her countenance was flushed and expression anxious; there was severe pain in the right nipple line through the shoulder; her tongue was much furred, and she was exceedingly nervous and sleepless; her temperature was 104 F., pulse 100, respiration 40; the cough was dry and painful, and no sputum had been raised. Physical examination showed much-diminished expansion on the right side, increased vocal fremitus, complete dulness and bronchial respiration with bronchophony over right infrascapular and axillary regions. The treatment consisted in liquid diet, absolute recumbency, calomel 8 grs., followed by a saline; guaiacol carbonate 8 grs., strychnia 1/40 gr. every two hours; codein 1/2 gr. and phenacetin 4 grs. for the pain; mustard and flax-seed poultice covered by oiled muslin.

Fourth day.—The patient's temperature was 104, pulse 108, respiration 52; she was delirious most of the time, and her sputum was rusty. Consolidation of the right lung extended to the mammary region, and there were signs of consolidation in left infrascapular region; the treatment was continued.

Fifth day.—The temperature was 104.2, pulse 108, respiration 50; there were delirium, labored breathing and marked cyanosis; oxygen gas was administered for twenty-minute periods every alternate hour.

Sixth Day.—The temperature was 101.4, pulse 106, and respiration 38.

Seventh day.—The temperature fell from 101.4 to 99.6, the pulse from 106 to 92, the respiration was 40.

The termination was by lysis, and convalescence was uninterrupted. The total amount of guaiacol carbonate given in four days was 320 grains.

CASE 3.—Mr. N., single, aged 28, chemist, previously well, was seized with severe chill, followed by fever, and pain in the right mammary region. I saw him first on the third day, when his temperature was 104, pulse 120, and respiration 40. He had a cough and expectorated the typical rusty sputum; there was slight delirium and his tongue was thickly furred. The physical signs gave evidence of complete consolidation of the upper lobe of the right lung. The treatment was: calomel 8 grs. followed by a saline; guaiacol carbonate 8 grs., and strychnia 1/30 gr. every two hours; absolute recumbency; liquid diet.

Fourth day.—The temperature was 104.5, pulse 120, respiration 50; the delirium was most pronounced, and there was much restlessness; the tongue was brown and dry, and the consolidation extended to the lower lobe, also to the lower lobe of the left lung. The guaiacol was increased to 12 grs.

Fifth day.—The temperature was 105, pulse 140, respiration 60; there was muttering delirium, sordes tended to collect on the teeth, and cyanosis was commencing. The right lung was completely solidified, the left lobe showed an increased amount of solidification, the heart sounds were feeble but regular. Oxygen gas treatment was commenced, twenty minutes every alternate hour; strychnia was increased to 1/20 gr. hypodermically every two hours; 8 grs. calomel were followed by a saline.

Sixth day.—The temperature was 103, the pulse 103, and the respiration 50; the delirium was less marked; there was restlessness, but cyanosis was not continuous, the tongue was moist, and there was commencing resolution in the upper right lung. Oxygen gas gave great relief, but the patient wanted it no longer than ten minutes; the treatment was continued.

Seventh day.—The temperature was 101, the pulse 108, and the respiration 50; there was no delirium, and the physical signs of resolution in right lung were extended and were commencing in left.

Eighth day.—The temperature was 99, the pulse 100, and the respiration 40. From now on convalescence was uninterrupted and resolution became complete in three or four days. Guaiacol was continued for one week in lessened doses, as was also strychnia.

CASE 4.—Mrs. M., aged 32, for several years in delicate health, had a chill with fever and severe pain in right axillary region, and a cough with mucopurulent expectoration. Physical signs of consolidation were not manifest until the sixth day, when they were found in the lower lobe of the right lung; her temperature was 103.4, and her pulse 90. Guaiacol carbonate 12 grs., and strychnia 1/30 gr., were administered every two hours. From this time on for six days the temperature ranged from 101.9 to 104.4, the highest pulse was 120, the highest respiration 60; delirium was marked at times. Resolution took place by lysis, but the temperature did not reach the normal. After one week of improvement the temperature and pulse increased, when physical signs of a pleural effusion were found. An exploratory paracentesis thoracis revealed pus in the infrascapular region after two failure punctures in the mammary and axillary regions. A pleurotomy with rib resection was performed by Dr. Jonas, which was followed by a tardy though continued convalescence, with complete expansion of the lung.

CASE 5.—Mr. H., aged 45, married, clerk, very robust, had a cold and cough for several days while traveling. A chill followed by fever and pain in right side occurred before reaching home, and two days before my first visit. I found the temperature 103, the pulse 110, and the respiration 36; the cough was accompanied by an expectoration, prune-juice in character. There were physical signs of general bronchitis, and consolidation in the right infrascapular region. Guaiacol carbonate 10 grs. and strychnia 1/20 gr. were commenced at once, and 6 grs. calomel were given, followed by a saline. Under this treatment and a mild expectorant, resolution took place by lysis so that by the sixth day the temperature was normal, and the bronchitis slowly disappeared.

CASE 6.—Mr. C., aged 50, married, accountant, was seen in consultation on the fifth day after a severe chill, followed by high fever and some pain in the side. His temperature had ranged to upward of 104 and pulse to 115. At my first visit he was partially comatose, the tongue was brown and dry, and there were sordes on the teeth; there was enormous distension of the abdomen from gas, and complete consolidation of the right lung. I prescribed calomel 6 grs., to be followed by a saline; sodium salicylate 15 grs. every two hours for four doses, then at longer intervals, and strychnia 1/20 gr. The following morning the temperature had dropped to about 102, and the pulse to 112; the abdominal distension was relieved, the tongue was moist, but the stupor had increased and cyanosis was manifest. Oxygen gas was commenced in the afternoon. The same evening the pulse was 124, and the temperature 103; there was incontinence of feces, the coma had increased, but commencing resolution was manifest in the consolidated lung. In spite of large doses of strychnia and digitalis, hypodermically, the patient died comatose the same night.

CASE 7.—Mrs. S., aged 38, housewife, of rather delicate constitution, had been curetted by me on the eighth day after labor, for a sapremia of mild type which had not yielded to uterine irrigation. Her temperature was practically normal and her condition very favorable until the fifth day following, when she had a chill, with headache and general malaise, followed by a temperature of 103.5. The next day severe pain developed in the left inframammary region, which required morphin hypodermically for its relief. A careful physical examination made after the pain was controlled, when the respiratory movements were free, was negative. Fearing the development of pneumonia, at my next visit I took with me 5-gr. capsules of guaiacol carbonate.

Third day.—The temperature was 103, pulse 128, respiration 49: the pain returned and was also present in the supraclavicular region. There was no cough. Physical examination showed consolidation in the left infrascapular region, crepitant râles distinct in inframammary region of the same

side. I ordered guaiacol carbonate 10 grs., strychnia 1/20 gr. every two hours, and codein as required for the pain.

Fourth day.—The temperature was 103.2, the pulse 140 and irregular, the respiration 38; perspiration was free and tympanitis marked. Vaginal examination, abdominal examination negative and physical signs the same, but crepitant râles in addition were heard in the supraclavicular left and inframammary right, but there was no cough.

Fifth day.—Morning temperature was 102, the pulse 140, the respiration 44; at 5:30 p.m. she had a chilly sensation for a half hour with a temperature of 106 following, the pulse was not countable, the respiration 40; at 10 p.m. the temperature was 104, pulse 148, respiration 36.

Sixth day.—The temperature was 101.4, the pulse 136, and the respiration 24. Signs of resolution were marked over the consolidated area, and no extension where crepitant râles were heard elsewhere. For the first time she expectorated a bloody sputum which on bacteriologic examination by Dr. Lavender was found to contain staphyloccoci, pneumococci and a very few streptococci. During the next few days all evidence of pulmonary trouble disappeared and the temperature, pulse and respiration became normal. The guaiacol was continued in the same dose at longer intervals.

CASE 8.—This was a case of embolic pneumonia, the result of a septicemia from a self-induced abortion at the second month, terminating in abscess and the expectoration of large quantities of pus containing streptococci and staphylococci. The pulmonary infection occurred in the left mammary region and gave the typical signs of consolidation, with temperature ranging from 102 to 104 and pulse 130. Large doses of guaiacol carbonate with strychnia was the only medicinal treatment, the patient convalescing in ten days with good results.

This case can not be classified with the ordinary pneumonia of pneumococcus origin, and is recalled because of the apparent influence of the antimicrobic treatment over a septic embolic pneumonia.

Individual statistics bearing upon the treatment of disease carry weight only with him who has been through the personal experience of the foundation for the statistics. It requires a collective investigation to determine whether in reality any progress has been made, and more particularly is this true of pneumonia, a disease which is attended by so many surprises, and the results of which are so uncertain. My own experience with the remedies which are so earnestly advocated by Dr. Smith is so limited that I hesitated to bring the subject before you at this time; yet I was so impressed with the results in some of them, which represent the severe types of double pneumonia that I desired to suggest a trial along the same line, in order that we might the sooner ascertain whether we yet had a specific treatment for this disease. We must go on hoping that we shall accomplish as much in this direction as we have in the treatment of malaria, of syphilis and of diphtheria. It is all well enough to write and talk of treating the individual instead of the disease but when we can do both with the same degree of intelligence, we shall lower the mortality of pneumonia to figures which, to say the least, will not be alarming. So far as we know I would rely upon the guaiacol or salicylates as specifics in pneumonia, giving preference to the former in cases past the stage of congestion, in the enfeebled, or where there were heart lesions. The addition of strychnia to the salicylate treatment obviates in part the depressant effect upon the heart, and so does alcohol. I combine strychnia with the guaiacol also for its influence upon the nervous system, and to prepare the patient for very large doses, if they become necessary. I shall not take up your time with the details of the individual or symptomatic treatment, except to say that I have found the hot poultices more agreeable than cold; that I would resort to venesection when there was an overloaded right heart with threatening symptoms; that digitalis is reserved for an irregular and flagging heart; codein in small doses for the relief of pain and delirium; strychnia in increasing doses and alcohol for enfeebled heart action; calomel and saline for constipation or sluggish portal circulation; that oxygen gas is commenced at the first sign of cyanosis and in quantity sufficient to relieve; and last, but by all means first, the absolute recumbent posture until resolution is established.

APPENDICULAR FISTULA.*

JOHN B. DEAVER, M.D.

PHYSICIAN-IN-CHIEF TO THE GERMAN HOSPITAL.

PHILADELPHIA.

The subject of my remarks to-day, appendicular fistula, is such a common sequel to operations for acute appendicitis and is of such great importance to the future welfare of the patient, that I can not too strongly invite your attention to this subject. It is one of the most important sequels to appendicitis operations, for several reasons: on account of its effect on the constitution, the organs it may involve, and the danger in which it may place the patient in regard to future health. That many fistulæ may be avoided, if earlier operative measures were instituted, can not be questioned. This apparently is a very strong presentation to make, but I shall endeavor to show later in the discussion my reasons for making such a statement. I shall discuss this subject by taking up the varieties, the causes and dangers, the means of prevention, and the treatment.

There are two types of fistulæ of appendicular origin —the external and the internal. The external is subdivided into two, the simple and the fecal. The simple fistula is also of two kinds; the first is where the external channel leads from an unhealed abscess cavity and corresponds to the site of the drainage tract. This variety is simply a suppurating sinus, and tends to heal spontaneously. The delay in healing may be due to the presence of an infected ligature or a piece of gauze used for drainage purposes, and which has dropped into the wound and been lost. On the escape of the ligature or the removal of the gauze, closure of the fistula takes place. In the second variety of simple fistula, the lumen of the appendix is in direct communication with, and discharges its contents into, the fistula. The material which is discharged from the fistula is clear mucus. This variety is found when the lumen of the distal portion of the appendix is in direct communication with the fistula, the lumen of the appendix has however become obliterated at some point, or the organ has, from the inflammatory process, become separated from the cecum or in its continuity, thus allowing the secretions of the organ to escape through the fistula.

There are two varieties of the fecal fistula consequent on appendicitis: 1. Those in which the lumen of the approximal portion of the appendix is in direct communication with the fistula, and from which there is a fecal discharge; this discharge later becomes entirely mucus or but slightly stained with fecal matter. 2. Those in which the cecum, the ascending colon, the small intestines, or both small and large intestines, are in communication with the fistula; the opening into the

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bowel may be so extensive that it may practically amount to an artificial anus.

The factors in the production of appendicitis are likewise the cause of fistula. The invasion and the destructive activity of micro-organisms is in a large measure responsible for this condition of affairs. It is responsible for the softening and gangrene of the appendix and the adjacent bowel. Necrosis from pressure occasionally occurs. Pus is not an essential factor in the production of a fistula, although abscess is undoubtedly the exciting cause in the majority of instances, from the pressure which is attended with necrosis. The pressure of a drainage-tube or the cutting out of sutures which have been introduced into a bowel wall already weakened from the inflammatory process are also causes of fistulæ.

The source of the fecal discharge will be found to be from an opening into the bowel, or from an appendix which has separated from the bowel and discharged the bowel contents from its proximal end or from both.

The persistence of a fecal fistula may be caused by the continued use of a drainage-tube. I have seen a number of cases which were rapidly cured after discarding the drainage. One in particular demonstrates this point: The patient, a youth, was twice operated on for appendicitis with a fistula having two outlets, one on the right side, discharging bile and feces, and a second on the left side, from which pus made its escape. I found in this case that a large-sized drainage-tube had been introduced into the pelvis and had been worn for a number of weeks, without any diminution in the amount of the discharge. The drainage was removed at my suggestion, and this was followed by prompt closure of the fistula.

A fistula does not always make its appearance early, i. e., within a few days after operation; it may not make its appearance for a week or ten days, and one should not dismiss the possibility of this complication occurring even at some more remote period. The following case will show the possibility of a late development of fistula: The patient, a young woman, was operated on for an appendicular abscess. The appendix was not removed at this time, for two reasons—on account of the softened condition of the bowel forming the wall of the abscess cavity and because the appendix was very deeply situated, it was feared that the bowel might be torn in the necessary manipulation to free the appendix. The appendix was therefore left for a subsequent operation. The abscess cavity was packed and allowed to heal by granulation. After ten days had elapsed the dressings were found to be bile-stained, and also with fecal matter. The fistula showed no prospect of a spontaneous closure and later developed an exceedingly painful eczema about the external opening of the fistula. The usual dressings for the eczema had no effect whatever, and the patient's condition became so bad that operation for the cure of the fistula became imperative. Before operation was resorted to all food by the mouth was suspended and nutritious enemata given, but these excited so much rectal tenesmus that they had to be discontinued.

The operation was attended by a number of difficulties. There was a mass of adhesions covering a large area and binding the large and small intestines down to the region of the gall-bladder, calling for extensive and careful dissection to properly expose the fistulous communication with the bowel. The fistula was found to involve the duodenum, as was anticipated, and called for excision of a portion of the bowel, and anastomosis. The unhealed abscess cavity was found unhealthy in appearance and covered with a dirty grayish granulating surface. The lining of the cavity was stimulated and repacked with iodoform gauze, and the abdominal wound closed, except at the point of exit of the packing. A period of two weeks elapsed, when the patient again complained of pain in the region of the wound. The dressings were removed and it was found that the fistula had recurred, and to a more serious degree. The discharges from it were fluid and would contain milk that had been swallowed but a few moments before. Pure bile also escaped from it. Owing to the nature of the fistula, the recurrence of the eczema and the rapid emaciation of the patient, another operation was done. On opening the abdomen and exposing the duodenum the line of the previous operation was seen and found to be intact. The opening in the duodenum was found some distance from the site of the former operation. The duodenum was greatly dilated and thinned out, the opening being large enough to permit the escape of the entire bowel contents, and it was necessary to excise at least five inches of the duodenum in order to include healthy tissue in the anatomosis. An end-to-end enastomosis was performed, the thinned portion of the bowel reinforced by peritoneal flaps, and the external wound closed after packing had been introduced into the unhealed abscess cavity.

The character of the discharge in the external variety of fistula varies according to the type of the fistula and the stage at which it is seen. If seen early, the discharge is fecal in character, except in the type where it proceeds from a separated appendix which is not in communication with the bowel. If the appendix is not removed at the time that the abscesss is evacuated and a fistula supervenes, then the appendix will be found to communicate with the fistula. In one case the appendix was noted to be separated at the time of the evacuation of the abscess. A fecal fistula which had a very small external opening—one not large enough to permit the passing of a probe—resulted. This fistula was treated expectantly, in the hope that it would close spontaneously, but it persisted, and an operation for its closure revealed the appendix to be in communication with the fistula, separated from the bowel and attached to the abdominal wall, draining through the fistula. Recovery followed the removal of the appendix.

A patient with appendicitis, who was originally treated for a perinephritic abscess, which was opened and drained, complained of pain in the region of the loin, and right iliac region, three or four weeks after the wound had healed. The patient was admitted to the German Hospital. On placing him on the operating-table, under an anesthetic, a strong fecal odor was detected, as though he had defecated. On exposing the wound from the former operation, a free discharge of fecal matter was found; it escaped from an opening in the cicatrix, which had broken down at this point. The part was carefully cleansed and an aseptic pad placed over the opening. The patient was placed on his back, an incision made through the abdominal walls over the appendix, and the latter exposed, which was found occupying a post-cecal position and in direct communication with the fistula, the contents of the cecum making its escape through the appendix and out into the fistula. The appendix was removed, the abdominal wound closed, drainage intro-

duced into the former fistulous tract. Recovery followed.

The internal variety of fistula occurs as the result of the evacuation of an abscess into one of the hollow viscera, and is believed by many to be a most favorable termination to pus formation. To this view I must make very strong objections, for I have seen too many cases where this has occurred and been followed by distressing consequences. In one case there was a fistulous communication with the bladder, which ultimately cost the patient his life; in another the fistulous communication was between the appendix and the dilated portion of the ureter, which permitted the escape of feces through the ureter into the bladder and then to the exterior. In still another the fistula was in communication with the upper air-passages. The most favorable variety of internal fistula and that in which the patient incurs the least risk to life is where the abscess breaks into the cecum or the ascending colon. Where the abscess breaks into an adjacent coil of bowel it has, in a number of instances, been the direct cause of an acute internal intestinal obstruction, and caused loss of life therefrom. Acute intestinal obstruction is caused by the slipping of a knuckle of bowel under the point of adhesion of the fistula.

The constitutional effect of a fecal fistula is evidenced by a more or less rapid loss of strength and impairment of nutrition, due to the loss of the bowel contents containing the elements necessary for nutrition. This is more especially true when the fistula occurs high up in the small intestines, either in the duodenum or the jejunum.

As I have before stated, there are several factors which are the exciting causes of appendicular fistula: abscess formation; migration of micro-organisms into the bowel wall, causing softening; separation of the appendix from the bowel; the introduction of too many sutures or tying the sutures too tight in a softened bowel; the presence of the drainage-tube, and pressure necrosis.

On referring to all these causes we can see how easy it would be to prevent the occurrence of any and all of them by instituting surgical interference directly after the onset of an attack of appendicitis. If the appendix is removed immediately after the attack occurs, i. e., before any serious involvement or impairment in the nutrition of the contents of the right iliac fossa takes place, then it is impossible for abscess to occur, except from some fault in the technique of the asepsis; and it will be impossible to have softening of the bowel and cutting out of the sutures, the introduction of drainage will be dispensed with, the likelihood of adhesions lessened and any of the sequelæ which almost always follow neglect in having the patients operated on at the time of election—at the commencement of an attack—be avoided.

The treatment of appendicular fistulæ of the external variety varies with the individual cases. It is well, however, to permit Nature to attempt a cure. The surgeon's attention should be directed to maintaining thorough cleanliness and to regulating the diet. Frequently a fistulous tract will heal spontaneously if the diet be solid food and the bowel contents be kept rather hard. It is not wise to use a syringe, as it irritates the tract. If the fistula persists after the lapse of a reasonable time, operation offers the only hope of cure.

The operative treatment of the simple fistula should consist in exploring the tract to ascertain whether an infected suture be the cause. If it is, this should be removed and the tract curetted and packed with gauze. This usually suffices to insure a cure. When the fistula or sinus communicates with an unhealed abscess cavity, the mouth of the fistula should be enlarged sufficiently to permit of thorough cleansing and packing. When possible without opening the peritoneal cavity, the mouth of the fistula should be enlarged to a degree to equal the transverse diameter of the abscess cavity at its widest part. This should be followed by thorough cleanliness, packing, etc.

The treatment of fecal fistula necessitates opening the peritoneal cavity, removing the appendix—or its remaining portion, as the case may be—and thoroughly breaking up all peritoneal adhesions. When the fistula is in communication with one or more openings in the intestine, closure, preferably by suture, is to be recommended, but resection, end-to-end union, etc., is frequntly required.

To summarize the points which I desire to make: 1. The fistula is one of the most important sequels of operation for appendicitis. 2. Certain cases of fistula tend to close spontaneously. 3. When the fistula causes marked constitutional effects, delay in operating is a menace to life. 4. It is possible to avoid fistulæ in the great majority of instances if operation is instituted early. 5. Operative cases of fistula are usually curable, rarely requiring a repetition of the operation for its correction. 6. The fistula does not necessarily occur directly after the operation for the removal of the appendix or the evacuation of an appendiceal abscess.

1634 Walnut Street.

EDUCATIONAL AND LEGISLATIVE CONTROL OF TUBERCULOSIS.*

CHAS. DENISON, A.M., M.D.

DENVER, COLO.

The idea that a known (?) disease like tuberculosis springs from the evolution or rather dissolution of the forces which have to do with our being, that it is an evidence of the variation of the law of harmony to environment, a retrograde movement toward dissolution and death; this idea, I say, of a basic law of degeneracy, which finds its chief expression in this wasting disease, is too profound to be easily grasped, too adverse to our set habits of thought to be easily accepted. Therefore, if I fail to convince the reader in a necessarily curtailed presentation of proof, let me suggest that he simply suspend judgment till the opportunity happily occurs for him to study John Fiske's "Outlines of Cosmic Philosophy," especially the interesting chapters on "Matter, Motion and Force;" "Rhythm;" "Evolution and Dissolution" and "Sources of Terrestrial Energy." Then, I think, he will come to the conclusions here reached and have a clearer understanding of the matter.

There is a deeper and more fundamental source of knowledge than that which the microscope with its wonderful delineation and detail can supply, and the liability of being side-tracked by that instrument's findings should be recognized, that we may not fail to grasp the true origin and evolution of our degenerative diseases.

An important fact in evolution is that, all the way up to man, the beings evolved have had no voice, save instinct, in deciding their destiny. With the advent of man, however, something was added to the law of the survival of the fittest, that is, a deciding brain. This

*Read before the American Climatological Association, Washington, D. C., May, 1900.

higher order of life—the soul of man with its God-like attributes—involves not only equivalent responsibility but the liability to mistakes because of that responsibility. I am not a preacher to expound and lament man's moral errors, but of all his physical ills, the profoundest and most far-reaching mistake which we now have to analyze is known through its results in tuberculosis, the lately termed "white scourge" of the race.

Let us try to free our minds from preconceived beliefs, and, rising above the details of bacillary evidence, attempt to determine how far man himself is to blame for his miseries, and then endeavor to learn how the punishment of this scourge is as it should be in the Divine order of our creation and our evolution. Thus we may come to realize that tuberculosis springs from the mistaken adaptation of man to his environment, i. e., is chiefly due to the faulty civilization of the present time.

The instinct of the Rocky Mountain beaver teaches him to build his winter hut in conformity to his environment, and wonderfully so with regard to the severity or mildness of the approaching season. A shrewd weather prophet interprets these findings and prognosticates the future for his fellow-men. Who will prognosticate the probabilities of life and death from the character of our own habitations? Are they a healthy outgrowth of man's conformity to his environment? No, it is right here, as I hope to show, that the greatest nonconformity lies. The question of the suitability of man's abode and life to his highest development may be studied better through the subject of ventilation than in any other way.

There was a man in our town who was much annoyed by the constant dinging of a piano in an adjoining apartment of his lodging-house. So he rigged up a gong run by electricity and his improvised music was made to accompany the piano until the latter stopped. If an automatic ventilator could be invented, built into a window pane or into the outside walls of a room, which would sound a gong whenever ventilation was imperfect —by reason of excess of carbonic acid or any organic impurity above an established healthy standard—and if such a device could be used in all living-rooms, there would be so much noise in every town that nothing else could be heard. The racket would probably bring relief in perfect ventilation, and the readjustment of the hearing organs to suit this noisy environment would be accompanied or rather attended by a great decrease in the degeneration which induces tuberculosis. The reward for the successful inventor of such an automatic ventilator should be great, for the good results would be almost inestimable. A visual index of atmospheric purity and impurity might be substituted for an alarm or gong.

This would not be a more wonderful discovery than many that have been made of late, as, for instance, the thermostat or heat regulator, which automatically controls the heat of a building within one degree of a desired point, but what a salutary correction it would be of the defects of our living-rooms! Let us take an average living-room, fourteen feet square and ten feet high, with one door and two windows—the usual condition. In such a room half a dozen may sleep, or one person may occupy a room of three or four times this space. This 2000 cubic feet represents about the average of the hundred thousand living rooms there are in a city of that population. The total window-space is one-half covered with curtain, and as the sun can shine into only one side of a house at a time, and as one-half the time he is usually shut out by clouds, little of the sun's direct rays can get into this average room. This room also has no fireplace, the door is shut nine-tenths of the time, and the windows are not open one-tenth of their area for one-tenth of the time.

This room has been evolved in the progress, and is one of the results of, our civilization. We must admit its necessity because it is here; but the evolution of its ventilation is as yet an unsolved problem to over 90 per cent. of humanity.

What then is sufficient ventilation for the maintenance of health? It is not merely that the carbonic acid which is thrown off from the lungs shall be replaced by its equivalent of oxygen from the outer air. So perfect are the joints the builders make, in this day of advanced art in architecture, that a guest-room, although aired and then unused for weeks, may need ventilating again before a new occupant enters, because it has lost the natural qualities of the out-door air.

A man exhales 400 volumes of carbonic acid to every two to four volumes he inhales; he must then have 4000 cubic feet of air an hour, according to Parks, and 1800 according to Briggs, lest the carbonic acid in a room exceed 6 to 10,000 and 8 to 10,000 parts respectively, which these investigators respectively considered to be the limits beyond which impurity should not be allowed to go. It is estimated that two candles give off as much carbonic acid as does one man, a lamp as much as two men, and an ordinary gas burner as much as do nearly six men; so, in addition, these sources of impurity must be considered. Ventilation necessitates the recognition of the fact also, based on the consumption of a pound of coal per hour, that for heating a room, 2072 cubic feet of air will be required for fourteen hours in the day. A thorough knowledge of ventilation necessitates, likewise, an appreciation of the various activities of persons in a room; also of the extra equivalent space in a room needed to offset the rarefaction of the air at great altitudes; also the estimation of various diseased states—as when, during fever, additional poisons are thrown off into the air—and also the determination of the chemical and organic changes which take place in laboratories and workshops.

Although all these are important, there is still something more needed to secure perfect ventilation. It is my purpose to show not only that the air-change in a room of this size is inadequate, but that there are other faults about this room, even were it twice as large, which seem not to have been generally, if at all, recognized. This will be plain when we consider the life of the air. We will see that there is a vitalizing principle whose force is annulled by the imprisonment of the air through defective ventilation.

How shall we express our conception of this vitalizing principle so that we may recognize its dissolution under absence of ventilation? We might do this had we some simpler way of giving to the sun its due credit as the source of all the heat, light and motion of life manifested on the earth than has Fiske, who says: "The difference between the tropical heat of India and the cold of the Arctic regions is simply the measure of untold millions of tiny differences in the rates of oscillation of countless atoms of atmospheric gases, determined in turn by innumerable oscillatory movements propagated *from the sun to the earth.*"

The life of the air exists chiefly in its motion, which, with its light, heat and electric or magnetic power, comes from the sun. If the absence of this life—here denominated as "dead air"—is represented as a perpendicular line, and "live air" is represented as another straight line

at right angles thereto, then the gradations from live air to dead, under the subtle influences in which we human beings live and die, can be truthfully represented as a curved line which gradually leaves the horizontal line and comes down to the perpedicular. This deficient-ventilation curve is not the same, but is much like Angus Smith's curved line (see illustration) which indicates, at times, the measure of the light of a candle when gradually extinguished by being confined in a closed space.

This receding flame can be fanned into life by opening a window, but let the previous stillness continue and the perpendicular line of extinguishment is surely reached. I wish to call attention to the important fact of the proportionate and gradual loss of light, and by it to illustrate the proportionate loss of vitality in a degenerative disease. Both these losses are so gradual in the beginning that they are unrecognizable. The line of life of the human being who is dying or to die of tuberculosis has a similar curve. So gradual and imperceptible to his comprehension are its graduations that he does not know where he is on the bend of the curve, but he knows quite as much about it as he does about the deficient-ventilation curve, represented by the graded line from live to dead air. We do not apreciate our individual positions on this ventilation curve, as to the respective confinements of our bodies in closed spaces and the resultant imprisonment and dwarfing of our respiratory and circulatory systems; and it becomes a pertinent question to each one of us: Will we be exterminated by these conditions or will the final extinguishing act be transferred to our children, handicapped as they will be by our present ignorance?

Where on our imaginary deficient-ventilation curve, is the room we have described? Do I controvert the judgments of physicians who have so often felt like smashing the scanty windows of the sick-room or sleeping-chamber in order to let in some pure air, by saying that its imperfect ventilation places it 20 to 40 per cent. along on the downward extension of the curve? Admitting this you see the whole force of my argument. We must judge by contrast, and our sensations are only partial guides. The purest air, and therefore the liveliest air I know of,is found when you stand on some eminence in the rays of the rising sun, with the air coming to you from the hills or mountains beyond, sifted through pines and firs; with your feet upon the dry but negatively electrified ground, while your head or perhaps your whole body is in the strongly positively electrified atmosphere. You breathe into your uttermost air-cells this ozonized air, the cast-off carbonic acid goes from you the instant it is exhaled and every nerve in your body is stimulated to normal life.

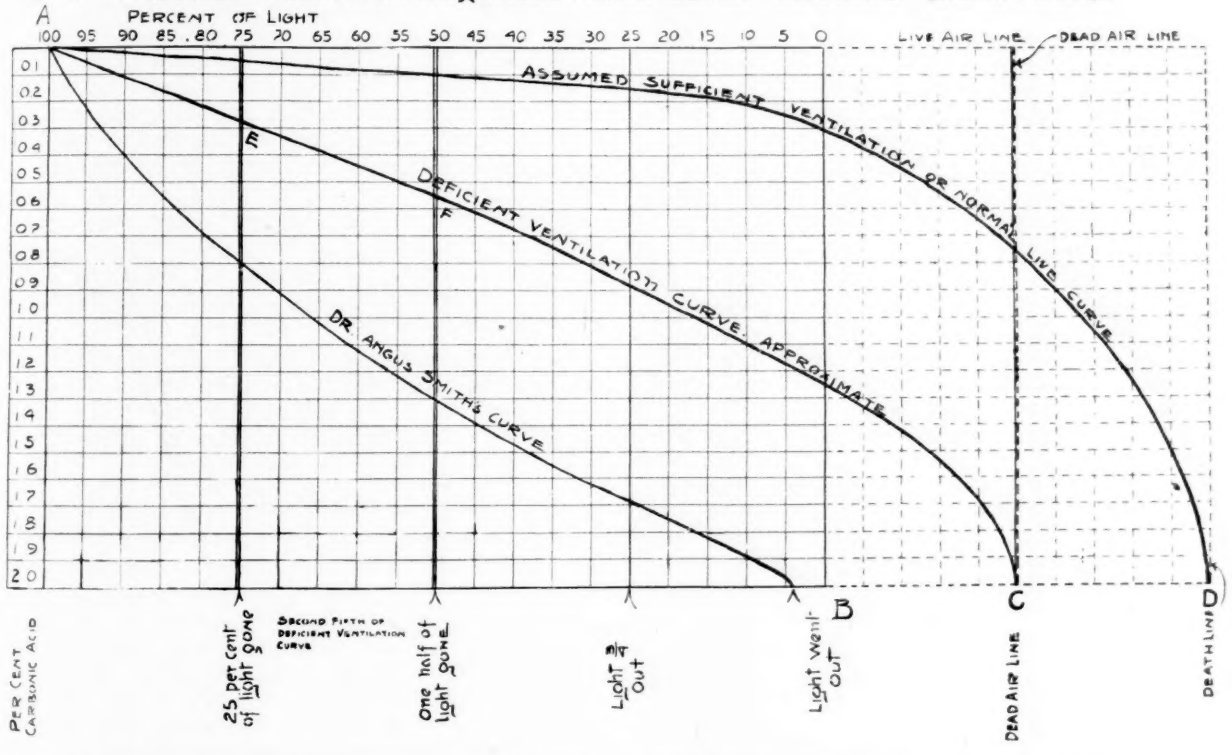
DIAGRAM ILLUSTRATING VENTILATION

A-B DR ANGUS SMITH'S EXTINGUISHING CANDLE LIGHT WITH INCREASING PERCENT CO_2

A-C ASSUMED DEFICIENT VENTILATION CURVE FOR COMPARISON WITH NORMAL LIFE LINE

A-D APPROXIMATE NORMAL LIFE LINE CURVE UNDER HEALTHFUL CONDITIONS OF VENTILATION

E-F ASSUMED POSITION ON THIS CURVE WHERE HUMAN BEINGS ORDINARILY LIVE IN HOUSES


A
PERCENT OF LIGHT
100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20
LIVE AIR LINE
DEAD AIR LINE
ASSUMED SUFFICIENT VENTILATION OR NORMAL LIFE CURVE
E
DEFICIENT VENTILATION CURVE, APPROXIMATE
F
DR. ANGUS SMITH'S CURVE
B
C
D
PER CENT CARBONIC ACID
25 per cent of light gone
SECOND FIFTH OF DEFICIENT VENTILATION CURVE
One half of light gone
Light out
Light wanting
DEAD AIR LINE
DEATH LINE

The deadest air, I think I ever breathed was in the mammoth cave of Kentucky. I found there little 12 by 6 by 8 ft. rooms constructed of stone,with one door and a 16-inch square window in each. They had been built for the supposed climatic effect of the equable temperature, always 58 F. I was told that they took sixteen consumptives down there for one month. Four died there, one a week after coming out, and none were benefited. In comparison with the positive effects of live air cited above, such negative conditions, such deadness of atmosphere and ignorance of the requirements of human beings give the mind an ineffaceable shock.

Should a further illustration of dead air be needed, let us consider the lead chamber which Angus Smith constructed for his experiments[3], in which no possible interchange of air with that outside could occur. Imagine Dr. Angus Smith remaining therein, rebreathing its atmosphere as he did till candles went out, and you will have a good idea of what I mean by absolutely dead air, the effects of which, as described by this faithful investigator, I have no time here to dwell upon[4].

Previous to this experiment, Dr. Angus Smith had thought the real evil was from organic substances in the air, but afterward he concluded that carbonic acid, even in small amounts, had an injurious influence. In this connection it is interesting to note that Lavoisier and Saguin found that the human limit of the possible rebreathing of air was when the carbonic acid had reached 10 per cent. and that "was bearable only for a short time," while Angus Smith says "it seems to be impossible to endure 4 per cent. for any length of time."

The life of the air consists, to a greater extent than has been heretofore recognized, in the molecular motions of its atoms caused by the sun's influence. The diffusibility of the air, the easy motions due to changes of temperature in different strata, and the fact that light and sound depend upon the wave-motions of ether, are all forms of molecular activity which probably impart the life-giving principle to our atmosphere. This motion is always present till meddlesome man interferes. For instance if a narrow beam of light is thrown into a closed dark room in which the air is apparently still, every particle of dust is seen to be in constant motion. From the fact that there are varying states and amounts of electricity in the different strata of the atmosphere, the conclusion is justified that finer forces govern the life of the atmosphere than merely its composition of oxygen, nitrogen, moisture and carbonic acid. Nor should we forget the contribution of vitality vegetation brings through its constant interchange of oxygen for carbonic acid. This, with the qualities of atmospheric electricity and molecular motion, is all in restraint if not annihilated in poorly ventilated rooms.

This restraint of molecular motion and consequent limitation of vitality are in direct proportion to the deficiency of ventilation. Herein I conceive lies the great mistake of our civilization in relation to healthful human life. Here is to be seen the need of education that this cause of disease may be understood.

Let us try to elicit analagous evidence of vitality in the growing media of other products of Nature than those of the dwellers above the surface of the earth. The ground in our latitude becomes dead earth to vegetable growth as the cold of the Fall and Winter gradually annuls its vitality; but the warm penetrating rays of the sun in Spring and Summer transform it into live earth for the wonderful fructification of plant and animal growth. Plants too have their life-curve, which depends upon the vivifying and transmitted influence of the sun's rays. Shut out that influence and the life-curve becomes immediately abbreviated.

Again, let us consider the fish class, a medium creation depending upon air and water for its atmosphere and food. They constitute its life-giving agency and can not be greatly changed without its extinction. How wonderful is the effect of the fish's environment upon its life-curve, and upon its distinguishing characteristics, as shown by the eyeless inhabitants of dark caves, the big-eyed sunfish of the open pond, the sluggish sucker of the mud creek and the lively grayling of the rapids.

The livest water I have ever seen was when, within view of a snowbank in the Rocky Mountains, a cold dashing stream lashed itself, by its perpetual motion over rocks and stones, into a fit abode for the mountain trout, that creature full of ozone and vim, which life elements he transmits even to the fisherman who joyously captures him.

Note the difference in the life quality of that trout and of another of the same species pulled sluggishly up from 100 feet below the surface of a still lake. The higher the order of evolution, i. e., the more delicate and special the development of the nervous structure, the more susceptible to and influenced by the changes in environment are all created beings.

Applying this principle to the human family, we see that a limit of civilization can be reached where delicate or slight changes of environment may cause dissolution as well as evolution; where extinction from lack of conformity may take the place of evolution because of conformity to our environment.

We may argue against the cramped chest and round shoulders of the bicycle rider; but the bicycle is doing a world of good in getting people out of doors, in addition to the improved aeration of the blood which results from its use.

We admit the "visiting the iniquities of the fathers upon the children unto the third and fourth generation," meaning, in these days, syphilis and like hereditary evils; but this law of transmission likewise works itself out to the extinction of the users of defective and deficient ventilation.

We discuss the inhalation of irritant powders and poisonous gases in certain hazardous occupations; but defective ventilation, considered in conjunction with such causes of disease, increase their injurious effects manifold:

We may reason that the tubercle bacillus being the constant accompaniment of the decaying process in tuberculosis is consequently the cause and source of all this evil; but the very lateness of its appearance shows it to be rather the result than the cause. Its absence in many forms of scrofula, adenoid growth, wastings and catarrhs which surely eventuate in mature tuberculosis show that the pre-tubercular stage and perhaps the first stage of tuberculosis are already established presumably in advance of the germ. These conditions have been proved by the tuberculin test to be a part of the real disease before the microscopic or any other ocular demonstration of the bacillus is possible. The Widal test for typhoid fever now joins the tuberculin test in showing a dyscrasia which we know to be due to the presence of latent tuberculosis. This occurs before any ocular evidence of the mature germ is possible.

The destructive influence of sunlight upon the tubercle bacillus is now generally admitted[5]. If, in addition, the contention of Frankel,[6] that it is a facultative anaerobic germ, is sustained, then the claim of a predisposing cause in defective ventilation is strengthened by the favorable conditions furnished for such germination in the unventilated lung.

We thus go back of the tubercle germ to conditions which are bound, under favoring circumstances, to eventuate in it, and the following important statement is warranted, which controverts the trend of scientific thought of this decade as to the prevention of tuberculosis—namely: If all of Koch's bacilli of tubercle on this earth were instantly destroyed, in due time, under the same conditions, our world would again have an ample supply. It is not for me to pretend to know the

exact time which would elapse, under such a supposed temporary dispensation of Providence, until the terrible intensity of the "white plague" would be again as great as at the present time. The old times would come back soon enough. Undoubtedly, some of us, even those who are now incubating the germs, would live longer and be much wiser for such experience. We would, however, surely see the wave of bacillary domination sweep back over the human race, bringing the equivalent of the present time, when, as Osler says, 2 per cent. of the people living have the disease, and when, as it seems to me, ten times as many are getting ready for it.

Tuberculosis has come here to stay until we, the thinking masters of creation, acquire the education to understand and abolish it. It will not "down" in response to any edict against street expectoration, the disinfection of rooms occupied by dying consumptives, or even the slaughtering of tuberculous cows, although these measures of prevention are most important.

The drift of this reasoning is to this conclusion: Tuberculosis springs from, or is the outgrowth of, some unified cause which will account for its existence in cattle and horses, birds and other animals, as well as in man.

I wish to refer to the excellent paper presented by Dr. Charles Gresswell to the National Live Stock Association at its late meeting in Fort Worth, Texas.[7] From his considerable experience as a veterinarian in Colorado he shows that it is entirely unnecessary to use the tuberculin test with the "plains" cattle in the Rocky Mountain region, because even those previously infected, and transferred to the plains, there outlive their tuberculosis, and it does not appear in the next generation. In proof, he instances the surviving members and the progeny of a very badly infected herd of overbred Shorthorns, inbred and closely housed, of which I myself was cognizant. If also you bear in mind the great mortality from phthisis, etc., of the French and English cavalry horses under close stabling, which was quickly prevented by open-air stabling[8]; if also you are acquainted with the corroborative evidence of the close domiciling of cows, the confined caging of birds, monkeys, guinea-pigs and other animals, the crowding[9] of human beings in ship-holds, prisons, [10] alms-houses, [11] and places of public detention, or the civilizing and housing of savages, as of the American Indian, you then have to come to the conclusion that tuberculosis results either from a species of autoinfection from rebreathing the body's own exhalations, or from the fact that the air of these confined spaces becomes a source of infection from the loss or annulment of its life-giving principle.

Thus we are brought back to our sample room, the abode of a human being, the meagre size of which, and its deficient sunlight and air circulation, afford a sufficiently marked degree of deficient ventilation to constitute it a glaring fault of our civilization. This now seems to be the initial cause or starting-point of tuberculosis, which probably kills more people than war together with any other one form of disease known.

The study of the remarkable diffusibility and penetrability of gases, even through glass windows and brick walls, not to mention wooden doors with the many cracks around them, gives us some hope through what is called "insensible ventilation."[12] But the fear is that even this much of protection will be annihilated through the perfection of carpentry. The education which the people need, even the common people, and we doctors too, *must* be obtained and the architects and builders are not exempt from this necessity.[13]

A more thorough study of this intricate question would lead the architect, whose usefulness is too much limited by the demands of an ignorant public, to be an upbbuilder of people's health as well as of their houses. It is to be hoped that he will thus arrive at a more encouraging conclusion than did James A. Greenlief, C. E. , in his "How Much Ventilation?" when he said "For the ordinary private house a systematic air allowance per individual is almost an absurdity—for many of them a thorough systematic plan of ventilation is unnecessary, even were it not debarred by reason of the expense inseparable from it."

Whether ventilation, suited to the size and purpose of a building, the climate and the exposure, shall be by natural or artificial means, whether by propulsion or extraction, and how it shall be modified by the artificial aid of heat, steam and electricity, I have not time to consider in detail. My object now is to emphasize the need of ventilation of our living and working rooms. Lack of ventilation leads to the pale face, sallow skin, weak pulse, cold hands and feet and sluggish bowels; the feeble powers of digestion, assimilation and nerve energy—all proofs of a flagging vitality. This lethargy is due to enfeebled and poisoned blood-corpuscles, and a probable autoinfection, but especially to deprivation of food for the blood, i. e., oxygen from the air. In addition, the dead air, which marked deficiency of ventilation implies, compels inactivity and limited use of the lungs, and this, in turn means the gradual clogging of out-of-the-way air-cells with the products of combustion. In this manner, carbonic-acid poisoning and the species of autoinfection, heretofore described, are most naturally located and more or less permanently establshed.

I will not pretend to say what the details of a law of ventilation should be, but there should be such a law, enforced by proper legislation. That detail will be an outgrowth of the education which is essential to right legislation. In general, however, it should determine the minimum ventilation allowable in every assembling-place or habitation for human beings, and for dairy cows, horses, etc. The limitation should be adjusted to the various lives and their activities, with which the law has to do. If law can protect life by fire-escapes, the necessity of stand-pipes, the abatement of the smoke nuisance, the ventilation of sewers, and the non-pollution of drinking water, certainly this more subtle and ever-present cause of degeneration and death, defective ventilation, even in its slighter degrees, should come under its fostering care.

I suggest that an effort be made to establish and maintain the equivalent of the following: For a living apartment, a minimum space of 1500 cubic feet per individual, and a minimum ventilation or change of air of 2000 cubic feet per hour per person. If this is not afforded in new houses, then transoms over outside doors and windows, preferably opening inward at the tops, should be required.[14]

A course for the study of ventilation should be made a prominent feature in all advanced schools and colleges, and the government should carry out the many investigations which will help to determine both the best means, and the proper and necessary limits of ventilation. This is one of the ways in which a national bureau or board of health, properly established and supported by our general government, could prove itself one of the most useful and worthy of all the different departments which are represented by secretaries in the President's Cabinet. Until such a national board is established, the government ought to found and liberally maintain a commis-

sion on ventilation of houses, public halls, schools, factories and mines. Properly conducted, such a commission could do incalculable good.

BIBLIOGRAPHY.

1. Fiske: Outlines of Cosmic Philosophy.
2. The table explaining the Angus Smith curve gives regular periods of time till the light goes out, and the extinguishment is divided into gradations from .1 per cent. carbonic acid up to 2 per cent. when the light goes out. It took .8 per cent. carbonic acid for the first quarter of extinguishment, .5 per cent. for the second, .4 for the third and .3 per cent. additional carbonic acid for the last quarter and total extinguishment.
3. Angus Smith: Air and Rain.
4. Dr. Angus Smith, in his "Air and Rain," in describing his sensations when confined in his experimental "lead chamber" containing 179 cubic feet, says of the chemical actions going on in the body: "They may take ten years to gather impetus to make their movements strong enough to produce sensations, and disease may be generated unknown to the individual, although it may kill him in the eleventh year, but if the chemical action began at first so violently as to produce decided sensations, he might be able to avoid it at once before it produced any abiding impression." After remaining in his chamber 100 minutes he found a reduction of oxygen to 20 per cent. and "the air had an unpleasant flavor or smell," and on entering it again after a minute he found "it extremely bad." He says "it took about four hours for the lungs to recover their tone."
5. Koch: International Medical Congress, Berlin, 1890.
6. Sternberg's Manual of Bacteriology.
7. Greswell: The Elimination of Tuberculosis Out in the Open. THE JOURNAL Feb. 3, 1900.
8. Parkes, in his Practical Hygiene, refers to the experience with horses in the French cavalry service and says that in ten years an annual loss of 190 per 1000 was reduced to 68 per 1000, by giving them more room in their stables, while in the English cavalry service, the change for the better by similar treatment was even more striking till the annual mortality was reduced to 20 per 1000.
Parkes, in his Practical Hygiene, notices the relation of increased mortality to density of population and adds that "its main concomitant condition is impurity of air from over-crowding."—"especially among children whose delicate frames always give us the best test of the effect both of food and air."
10. Dr. de Chaumont's analysis, in Parkes' "Practical Hygiene," of the air in 11 barracks and hospitals showed an average excess of over 6 volumes carbonic acid per 10,000 and nearly twice that in the cells of four different prisons. Other and extreme analyses of air in rooms (in orphanage dormitories and detention places), with space per head all the way from 51 to 150 cubic feet, gave from 31 to even 72 volumes of carbonic acid to 10,000. The ratios were constantly greater, the more confined were the persons or animals.
11. Carmichael found in the Dublin House of Industry, crowded with children, that "the only causes for the excessive phthisis were the foul air and want of exercise."
12. In illustration, take notice of the dark lines on the plastered ceiling of a much used room. They are the interspaces between the laths where the dirty air has been sifted through.
13. That this education needed must be mainly directed to the ventilation of closed habitations is beyond any doubt: for Angus Smith's calculations, made in the cities of London, Manchester and Glasgow, showed so small a difference in the percentage of oxygen, as well as of carbonic acid, in the open places that we may conclude it is not so much the size of the city or the number of rooms in it, as it is the character of the rooms themselves. Parkes says "the colliers of Durham and Northumberland, where the mines are well ventilated, do not appear to suffer from an excess of lung disease, or to do so in a slight degreee." While as to "metal miners," he says that among them there comes to be, in advanced life, for males aged from 45 to 75, five times as many deaths from pulmonary disease "as for males exclusive of miners in Yorkshire." This latter evidence bears upon the quality of the dust in crowded places and rooms, which is organic to no small degree. Tichbone (Parkes' "Practical Hygiene") in a Dublin street, found it from 30 to 45 per cent. organic, and Chalvet, in a hospital ward in Paris, found the dust to be 36 to 46 per cent. organic matter. The sickening headache which some sensitive persons experience in, or after being in, a crowded theater, is probably wholly due to the rebreathing of excessive carbonic acid. "Crowd poison," as this air of crowded halls is sometimes called, undoubtedly contains much organic matter thrown off in the exhalations of the people there assembled. Even the moisture of these exhalations is not inconsiderable. Parkes averages an estimate of 211 cubic feet of air needed to maintain, in a state of vapor, the 25 to 48 ounces of water which a human being gives off in twenty four hours' time, and he adds that when carbonic acid in the air has reached 7-10000 the smell of organic matter is generally perceptible, and it is "very strong" when 10-10000 is reached.
14. The variation of a proper law may be needed to suit the assembling of large bodies of people in halls, churches, etc., where occupancy is limited to a short time and a less space per capita seems to be allowable, or again where additional air is required, as in hospitals and certain work-rooms. But the building inspector, properly working with or under the Board of Health, should not only be possessed of a spirit of the law's righteousness, but should be a man of high intelligence and force.

DISCUSSION.

DR. PHILLIPS, of Washington, in the discussion, called attention to the experiments of Dr. B. W. Richardson[1], which served to confirm this contention for the life of the air. Richardson confined under glass, so they could be watched, four warm-blooded animals—a cat, dog, rabbit and pigeon, also two frogs—and gave them forty gallons of pure oxygen. He proved that the passing of the electric spark through the once used oxygen—which had killed or was killing the warm-blooded animals although only one-eighth of the oxygen had been consumed or was lost—restored the lost life or vivifying power. To quote Dr. Richardson:

Oxygen, when breathed over and over again, although freed entirely from carbonic acid and other known products of respiration, loses its power of supporting life; the process of life ceasing not from the introduction of a poison, but as by a negation or a withdrawal of some principle extant in the primitive oxygen which is essential to life[2].

Whatever explanation we give for this, whether that there is a possible rearrangement of the molecules of oxygen due to respiration which makes it afterward unsuitable to respiration, or, as Dr. Phillips suggests, that our accepted molecular divisions of matter are possibly not ultimate, we are entitled, I think, to assume this experiment to be the strongest possible proof of the main argument of this paper, i. e., that the chief vitalizing principle of the atmosphere is annulled by deficient ventilation.

1. Preventive Medicine.

THE DIAGNOSIS OF APOPLEXY UNACCOMPANIED BY MOTOR PARALYSIS.*

WM. N. BULLARD, M.D.
BOSTON.

Apoplexy unaccompanied by motor symptoms is often overlooked by the general practitioner, or its manifestations are not understood, while even the specialist is at times in doubt in the more obscure cases. It is not, however, a very rare occurrence, although in most of the general and special text-books but little space is given to it. It seems, therefore, worth while to draw attention to these cases and to point out the symptoms and the method of diagnosis. This may best be done by briefly reporting a few cases of apoplexy where the motor symptoms were either very slight or absent.

CASE 1.—J. B., a man 67 years old, born in Ireland, now living in Boston, having previously been in good health, though somewhat worried, had on Aug. 13, 1889, a sudden attack in which he turned blue in the face and seemed as though he were about to suffocate. He was raised up in his bed and shortly recovered. There seems to have been no marked loss of consciousness. The next day there was no paralysis of the limbs, no pain, no headache, but since the attack he has partially lost the power of speech and his mind seems confused. He complains of sense of weight on his head and his head feels heavy. He was seen on August 19, six days after the attack, and has stayed in bed most of the time since the latter, but can and does get up at times. Physical examination showed no paralysis anywhere. His mind was somewhat confused and there was some loss of memory and aphasia.

In this case the attack was evident and there could be little room to doubt the diagnosis. It seems doubtful as to how much loss of consciousness existed during it. While in the larger proportion of these cases there is a marked loss of consciousness accompanying the initial attack, this does not seem to be a necessary accompaniment. Attacks may occur which are not specially recognized at the time either by the patient or his friends.

The next case is typical of the more severe, and in many cases the most easily recognized, form of this trouble.

CASE 2.—G. L., a male, 30 years old, clerk, was seen

2. See also "Composition of Expired Air and Its Effects on Animal Life": Smithsonian Contribution to Pathology, by Billings, Weir Mitchell and Bergey.

*Presented to the Section on Neurology and Medical Jurisprudence, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

April 30, 1891. He is said to have been in good health up to the date of the present trouble. He probably had a slight attack three years ago. Eighteen months ago, while at supper, he had, without known cause, a sudden attack supposed to have been a shock, which was not considered important at the time, and since then he has been in his present condition. No paralysis was detected at any time. He has, however, been entirely unable to work, although he has tried to do so.

Physical examination showed him somewhat childish and a little weak-minded, excessively suave and courteous, and laughing constantly without cause; also unable to fix his attention. There is marked indistinctness in the pronunciation of words, so that at times he can scarcely be understood. He understands many things said to him but not everything. In attempting to read aloud he reads rapidly, but uses chiefly imaginary or meaningless words with here and there one of the real words interspersed. He can write his own name but can not write other names. There is no paralysis except an old iridocyclоplegia on the right side, which existed previous to this attack. He grasps fairly well and his gait is normal; his knee-jerks are exaggerated and there is slight ankle-clonus on the left. On May 4 he had another shock and fell downstairs and was found unconscious. Since then he has been excited, talked much, was much annoyed with his family, and had delusions, though no hallucinations were detected. There was no paralysis.

By June 4, his mental condition had not improved. He had marked dementia, hallucinations of hearing, had become violent, and was committed to an asylum, where he grew rapidly worse and after a few months died.

This patient undoubtedly had syphilis.

The great seriousness of the mental condition in spite of the absence of paralysis is characteristic of many of these cases. How far the symptoms were the direct result of the apoplexies and how far any of them may have been due to the direct action of syphilis on the brain, can not be definitely determined, but inasmuch as the symptoms came on or grew worse in direct connection with the attacks, we are justified in the belief that the apoplexies were the principal immediate cause. This is also deducible from the evidence of other cases.

CASE 3.—A single woman, 46 years old, a tailoress, a patient of Dr. Samuel Breck, had some cardiac trouble six years ago and at times since has been "nervous," but no signs of hysteria have been detected. On Aug. 6, 1891, she went to the country, in her ordinary health; on the 14th she had epistaxis and was a little feverish; on the 17th, hemoptysis. She was feeling poorly, but on the 20th decided to return to Boston. When she awoke, on the morning of this day, her friend noticed that her face looked pinched, and it seems to have been drawn slightly to the left. It was also noticed that she readily allowed objects to drop out of her hands. Her mind was disturbed, she was incoherent and, contrary to her habit, she talked very loud. She did not notice or perceive things. She asked for her umbrella when she was holding it in her left hand and on being told that she had it in her hand, held out her right hand, which was empty, and said that she did not have it. She returned on this day to Boston, however, and seems to have walked and to have used her hands during the journey.

Since her return her mind has been affected. She has been complaining of many things, contrary to her usual disposition, and she has become obstinate and refuses advice. She tries to go to work, for which she is wholly unfit, and is said to have thrown her money away in the street. When seen on August 30 she had become violent and had to be restrained by force, and on this day refused food.

She is now excited, incoherent, mind much affected and weakened, but there is no paralysis anywhere. There is a diastolic soufflе over the aorta and a presystolic one at the apex, with considerable cardiac enlargement, principally on the left.

This is probably a case of cerebral embolism. It illustrates well, however, the conditions often seen. The amount of paralysis which existed in the beginning was so slight, if any existed, as is probable, as to be neglected, and when later I saw the patient, it had wholly disappeared. The mental condition was at that time, and really throughout the whole affection, the prominent feature. There was no aphasia.

These cases differ pathologically from cases of ordinary apoplexy with motor symptoms, probably only in the seat of the lesion. Clinically we find usually a marked degree of mental involvement, on the whole more pronounced than in the cases with motor symptoms.

The diagnosis, while evident enough if the initial attack is seen or carefully reported, is often difficult when the patient is seen later. The mental weakness, the dementia and the loss of memory prevent the acquirement of an accurate history. The presence of partial aphasia might suggest a condition of this character, but does not necessarily prove it.

Apoplectic attacks may be, moreover, primary as regards lesions of the brain tissues, or secondary to them. In the first place, the cerebral symptoms are to be regarded as the direct result of the injury to the brain produced by the hemorrhage, thrombosis or embolism. In the second place, the cerebral symptoms may be due to the primary disease, such as paralytic dementia or tumor of the brain, and it may be very difficult or impossible to determine which are due to the primary disease and which, if any, to the secondary hemorrhage. In all cases whatsoever, of apoplexy or apoplectic stroke, it is important in the first place to determine whether it is due to disease of the intracranial blood-vessels from causes lying in themselves or outside of the cranium, or whether it is dependent on affections of the brain tissues. Sometimes both causes may act together.

The differential diagnosis of cerebral apoplexies without motor symptoms is usually easy when a proper history can be obtained. The most important evidence is the sudden onset of the symptoms. If motor symptoms, even though very slight, have been present, this favors the diagnosis. Where we see a patient some time after the appearance of the mental affection and where no history can be obtained, the diagnosis depends: 1, on the character of the mental impairment; 2, on the absence of symptoms pointing to paralytic dementia or to intracranial tumor.

In the cases of primary apoplexy—primary as regards previous affection of the brain tisues—which have come under my observation, the mental condition has been chiefly one of dementia more or less marked, with or without partial aphasia. Excited conditions have existed temporarily and hallucinations and delusions are not uncommon, but the dementia has been on the whole the more prominent condition. In mild cases this may be slight and the differential diagnosis between these

and senile dementia can not always be made, if the history fails.

The second element in the differential diagnosis of the results of "primary" apoplexy from paralytic dementia or other cerebral affections is the presence or absence of the symptoms characteristic of these affections but not usual in the simple apoplexies. The condition of the pupils, the tremor, or the peculiar mental condition common in paralytic dementia, the severe headaches, the optic neuritis or optic atrophy of brain tumors, together with other symptoms common to these affections considered either separately or as a symptom-complex, will enable one to determine the pathologic condition.

89 Marlborough Street.

THE PLAGUE IN SAN FRANCISCO.

DOUGLASS W. MONTGOMERY, M.D.

SAN FRANCISCO, CAL.

THE JOURNAL has asked for the facts about the plague in San Francisco. The following are the cases, with their bacteriologic examinations, and experiments on animals as given by Dr. W. H. Kellogg, city bacteriologist, and Dr. J. J. Kinyoun, U. S. quarantine officer. I can endorse these tests and examinations, as I have taken a steady interest in them, and was deputed to follow them. Furthermore, the character of the men making these tests is above suspicion, and the scientific examinations made may be taken as correct, no matter what the conclusions drawn from them should be. They are here set before their proper jury, the medical profession.

The following reports of cases are made up from notes furnished me by Drs. J. J. Kinyoun and W. H. Kellogg: (Case 1 was reported in full in THE JOURNAL for May 19, p. 1236, and a full report of the result of the animal experimentation was also given.)

Case 2.—Chu Gam, aged 22, died March 15 at 723 Sacramento street. No clinical history was obtainable. The friends of the deceased gave conflicting stories as to his illness, some claiming that he had been sick over two months. When the body was first seen the face was enormously swollen and edematous; the skin of the whole body greenish black, and large blebs were present on the dependent portions of the body. The body had the appearance of having been dead a week. On section there was found a very little enlargement of the lymphatic glands. The lungs were dark and congested, but showed no evidences of pneumonia. The heart was very soft, with thin walls; there were no valvular lesions. There was considerable turbid fluid in the pericardium, in the pleura and in the peritoneal cavities. The spleen was enlarged, dark and friable, and the intestines showed evidences of inflammation. Microscopical examination of the blood and spleen demonstrated putrefactive organisms in large numbers and a few bacilli which had the appearance of the bacillus of plague. Attempts made to isolate this organism from the rest were successful. Cultures so isolated were sent to Dr. Kinyoun with the request that he inoculate an animal from these. Dr. W. H. Kellogg was informed that the animal died within 36 hours, of what appeared to be acute toxemia, and on examination very few organisms were found in the tissues except those at the point of inoculation. These gave a typical picture of plague.

Case 3.—Ng Ach Ging, aged 35, died March 17, at 905 Dupont street. No accurate clinical history was obtainable. The man was found dead, and immediately thereafter was turned over to the undertaker for burial. At the autopsy, performed forty-eight hours after death, the body was fairly well-nourished, but considerably discolored. On section, the glands were found not to be enlarged. The peritoneum contained about three pints of bloody fluid. The intestines were reddened, and the blood-vessels of the mesentery engorged. The spleen was slightly enlarged, dark in color and friable. The liver was slightly enlarged and congested. One of the most remarkable features was the complete transposition of the viscera. The spleen occupied the right side, the liver the left, the cecum being in the left iliac fossa. The lungs were edematous and hypostatically congested. The pericardium contained about two ounces of flocculent serum. There was also a considerable quantity of bloody serum in each pleura. The heart cavity contained several clots. Specimens were taken from the spleen and heart's blood for microscopical examination, which showed quite a number of putrefactive organisms present, and in addition thereto a short thick bacillus with rounded ends, which had the appearance of the bacillus of bubonic plague. It was readily decolorized by Gram's method. Animal inoculations were made from this material, which killed a guinea-pig within thirty hours and a white rat in five days. Drs. Kellogg, Kinyoun and Ryfkogel were present at the autopsy.

Case 4.—Lee Sun Kong, aged 47, died March 18, at Oneida place. When seen, forty-eight hours after death, the face was swollen and edematous. The skin of the whole body and part of the face and neck was greenish black. There was but little enlargement of the lymphatic glands. The lungs were dark and congested, but there were no evidences of pneumonia. The heart was soft and flabby, the walls of the ventricles thin, but there were no valvular lesions present. There was an inflammation of the peritoneum, the cavity of which contained one or two pints of turbid bloody fluid. The spleen was enlarged and very dark and soft. Microscopic examination of the blood and spleen demonstrated myriads of putrefactive organisms, and also a short thick bacillus with rounded ends, corresponding morphologically and in staining reaction to that of the bacillus of plague, and also corresponding in every respect to the organism found in the previous cases. This organism was not isolated in pure culture.

Case 5.—Law An, male, aged 38, a resident of California for thirty years, died April 24, in St. Louis alley, off Jackson street. This man had a large bubo in the left femoral region. Incision disclosed considerable bloody fluid and hemorrhages in surrounding tissues. Coverslip preparations showed among other organisms the bacillus of plague. Two guinea-pigs were inoculated, with the result that one died in fifty-eight and the other in sixty-one hours. Both these animals showed typical lesions of the plague, and the bacillus was found in large numbers in the spleen and heart's blood.

Case 6.—Lim Fa Muey, female, aged 16, died at Clay Street, May 11, seventeen days after the fifth case. She had a large bubo on the right side, in the femoral region, over which a sticky black plaster had been applied by a Chinese physician. The glands were as large as walnuts, dark, and the interior soft and mushy. Smears showed the specific bacillus, and its identity was confirmed by inoculation experiments on animals by Dr. Kellogg. Dr. J. J. Kinyoun also made inoculation experiments and got positive results.

Case 7.—Chu Sam, merchant, fifteen years in California, died May 11, at 717 Jackson street, aged 38. Dr. Kellogg saw this case on the day of death, with Dr. Wilson, at which time there was nothing visible to account for death, and the only suspicious thing about it was the heat of the body, which was quite noticeable, although twelve hours had elapsed since death. There was some distension of the abdomen with gas. There was a slight enlargement of the lymphatic glands in the femoral region, more marked on the left side, and these Dr. Kellogg removed for examination; but their appearance was so innocent that he set them aside and did not inoculate with them until forty-eight hours after removal.

The next day we went down to perform an autopsy and found the body in such a state of decomposition that we could not have recognized it as the same one we saw eighteen hours before, had it not been for a secret mark which we used to prevent substitution of bodies. The face was puffed up and edematous, the abdomen almost ready to burst with contained gases, and the skin discolored all over. The heart was very flabby, walls thin, and ventricles distended with gas; the lungs were normal, and the peritoneum was slightly inflamed. There was some fluid in both pericardial and peritoneal cavities. The speen was much enlarged, being six inches long, four inches wide and two thick. Color, a dark greenish slate with reddish patches. Smear preparations from the blood and spleen showed many organisms, but nothing resembling the bacillus of plague. Animals inoculated from the spleen died of toxemia, but no pest organisms could be demonstrated in them. The lymphatic glands, removed the day before autopsy, were slightly enlarged and showed slight hemorrhages into the gland substance; but they were firm and otherwise normal. A smear preparation showed a few organisms resembling the bacillus of plague, as seen in cultures. A guinea-pig which was inoculated with an emulsion of the glanduar substance died on the sixth day, with most typical lesions of plague. The spleen was at least ten times its normal size, covered with yellowish spots which, when examined, showed the presence of the plague bacillus in enormous numbers and in pure culture. The whole of the abdominal wall was edematous and there was an extensive coagulation-necrosis about the site of isolation. The organism was isolated from the spleen in a pure culture. The appearance of the body and also the pericardial lesions and general condition of the viscera were in every way identical with Cases 2, 3, and 4, already reported, in which difficulty was encountered in isolating the organism. It is believed, in view of the fact of this case, that if the glands had been taken from Cases 2, 3, and 4 as soon after death as in this case, and animal inoculations made from them, the same results would have been obtained. In this case, before the results of animal inoculation were known, the obscurity of the lesions seemed to be more in keeping with beri-beri than with bubonic plague.

Case 8.—On May 15 Dr. J. J. Kinyoun was informed by the assistant city physician, Dr. F. P. Wilson, that he had been notified of the death of a Chinese girl, which had occurred at the Pacific Hospital on the previous evening. The history obtained from the attending physician was that the girl, Chin Moon, was 16 years of age, a servant in a respectable Chinese family, at 730½ Commercial street, and had been ill for about five days. The girl was seen about three days before she died, and the symptoms then presented were headache, high fever, nausea, and pain in the right iliac region. The attending physician made a diagnosis of typhoid fever, and, observing the case to be very critical, had her sent to the Pacific Hospital; she was then in a moribund condition, and died on the following day. The attending physician at the hospital also made a diagnosis of typhoid fever and stated to me over the telephone that probably here was appendicitis. Dr. Kinyoun was invited to be present and assisted Drs. Kellogg and Wilson in making the post-mortem examination. An inspection of the body showed it to be well-nourished, and presenting no evidence of long illness. In the right femoral region there was rather an obscure swelling, which on palpation revealed a considerable mass of glands about the size of a walnut. Dr. Kellogg made an incision through the tissues down to this mass and demonstrated the correctness of the diagnosis. The swelling was a mass of enlarged glands. The tissues surrounding this mass of glands were edematous, containing a quantity of bloody serum. The mass of glands was dark, and hemorrhagic on section, and it was soft and necrosed in the center. Immediately on its removal Dr. Kellogg cut the mass in two, which on examination revealed the same organisms as had been previously observed in the glandular tissues of previous cases.

On the morning of May 14 Dr. Kellogg inoculated two guinea-pigs, weighing about 500 grams each, with an emulsion made from this glandular tissue. Death occurred in these pigs in sixty hours. Examination of guinea-pig No. 1 showed edema covering the whole of the abdominal wall. The peritoneal cavity contained a large quantity of bloody serum. The spleen was enormously enlarged, dark in color, and friable. Yellowish spots were observed on its free surface. The liver was enlarged and darkened, and the intestines were darkened and congested. The mesentery contained a considerable number of small hemorrhages in and about the mesenteric glands. The pleural cavity and the pericardium contained a considerable quantity of bloody serum. Coverslip preparations made from the point of inoculation, from the spleen, from the liver and from the heart's blood, showed an enormous number of short bacilli, having rounded ends, taking a typical bipolar stain. Cultivations were made from the several organs. In guinea-pig No. 2 the appearances were identical, with the exception that the spleen did not contain yellowish spots, as previously described in the case of guinea-pig No. 1. Coverslip preparations made directly from a portion of the mass of glands removed from the Chinese girl showed enormous numbers of a short bacillus with rounded ends, taking the characteristic stain. Cultivations were also made from this piece of gland, with the result that after thirty-six hours numerous colonies were observed on the surface of the agar and blood-serum. The cultures made from the several organs of the two guinea-pigs showed after thirty hours numerous small colonies on the surface of the blood-serum and agar tubes. These colonies were transparent, and when viewed under a low power were seen to be very slightly granular, and had a slightly irregular contour. Coverslip preparations made from these colonies gave identically the same picture as observed in the original preparations from the gland. The organism was non-motile. These pure cultures killed the animals injected with them, within sixty hours, and the post-mortem appearances were identical in every respect with those observed in the animals inoculated with a portion of the gland. Dr. Kinyoun, who was present at the post-

mortem examination of this Chinese girl, took tissues directly from the body, and made independent examinations clear through and the above description is an amalgamation of the notes made both by Dr. Kellogg and Dr. Kinyoun.

Case 9.—Herr Woon Jock, aged 53, male, laborer, married, ten years in California, had recently arrived from Stockton. He died May 14, at 740 Pacific street. Examination showed a bubo on the left side in the femoral region. The skin over the swelling was slightly discolored. The gland was dark and mottled on section, contained considerable serum, and the glandular tissue was soft and mushy. The smear preparation showed great numbers of the bacillus of plague, the identity of which was confirmed by animal inoculations.

Case 10.—Dang Hong, aged 40, male, laborer, a resident of California for the last sixteen years, died May 29, at 706 Pacific street. There was a large fluctuating swelling under the left side of the jaw, and a slight enlargement of the glands in the femoral region. Dr. Kellogg cut down on the glands on the left side and found them necrosed, and some thick pus present. A smear preparation showed the plague bacillus in the glandular tissue from both sources. The next day at 11 a. m. an autopsy was performed, at which were present Drs. Shrady, Montgomery, Kinyoun, Wilson, Morrissey, Cable and Kellogg. The lungs were normal, the heart muscle pale and flabby. About six ounces of bloody serum was found in the pericardial sac. The pleuræ contained about a pint each of the same fluid, and the peritoneal cavity three or four pints of bloody-serum. There were no lesions of Peyer's patches, but congestion of the peritoneal coat of the small intestine in spots. The great omentum showed intense congestion; the spleen was perceptibly enlarged and its substance a reddish brown color; and the mesenteric glands were enlarged. Animals were inoculated with the emulsions made from lymphatic glands, by Dr. Kinyoun and Dr. Kellogg, independently, and all died with typical plague infection.

Case 11.—Chen Kuey Kim, cigarmaker, single, aged 49, died June 2, at 10 a.m., at 817½ Clay street, between Dupont and Stockton streets. He had lived twenty-five years in California. An unreliable history of nineteen months' illness, with cough, was obtained from the undertaker and the Six Companies' physician. It was also stated that he had been sick for four or five days before death. The body was that of a large, well-built and well-nourished man. There was an incision in the left groin and on the right side of the neck from which the lymphatic gland had been removed. The integument was beginning to turn dark all over the body, but was more marked on the face and neck. The median incision passed through about an inch of fat. The lungs were dark and congested, but otherwise normal. The pericardium contained about 60 c.c. of bloody serum. The heart was a trifle flabby, but showed no valvular lesions; peritoneum dry; spleen enlarged and showing petechial hemorrhages beneath the capsule. A cross-section showed numerous yellow dots all through its substance, which was soft and friable. The mesenteric glands were enlarged and showed evidence of inflammation. Kidneys normal. By enlarging the incision found in the left groin a lymphatic gland about the size of a hazel nut was found, which as necrosed. Microscopical examination of this gland and of the heart's blood and spleen showed the presence in enormous numbers of the plague bacillus.

The autopsy on this case was performed by Dr. Donnelly, assistant bacteriologist, and was witnessed by Drs. F. P. Wilson, assistant city physician, Dr. Henderson, member of the State Board, and Dr. Kellogg. Drs. Henderson and Wilson accompanied Dr. Kellogg to the laboratory, where they were joined by Drs. Kinyoun and Baum, and where the preliminary examination of the blood, spleen and lymphatic glands was made and witnessed by the above named gentlemen. A coverslip preparation of the blood stained with thionin showed a marked leucocytosis and the presence of large numbers of the bacillus pestis, which were short rods with rounded ends, bipolar staining and frequently occurring in pairs. The Gram method of staining was also tried and they were found to decolorize perfectly. The spleen and lymphatic glands were simply crowded with large masses of the same bacilli, which was enough in itself to establish the diagnosis. To make assurance doubly sure, a guinea-pig was inoculated with an emulsion made from a piece of the spleen, with the result that it promptly died on the sixth day with the most typical and positive appearance of plague. The organism was recovered from the organs of the guinea-pig in pure culture and has been fully identified. Another pig was inoculated with this culture with the same result. Dr. Henderson, of the State Board of Health, witnessed preliminary examination of this case and took away with him slides which were made and sealed in his presence.

Case 12.—Jay Man Tong, male, aged 60, merchant, residing at 759 Clay street, a high official in the Six Companies. According to a certificate signed by white physicians employed by the Chinese, he had been sick for a year, and had died June 9, at 3 a. m. of angina pectoris; was said by his friends to have suffered from pain in the chest and cough for a year previously, and that his death was sudden.

Autopsy was performed June 9, at 1 p. m. The man was five feet ten inches in height, and weighed about 175 pounds. Body was well-nourished. Impaired tricuspid valve. Blood, in heart cavities, fluid. Two or three ounces of clear serum in the pericardium. Lungs normal. Some bloody fluid in the peritoneal cavity. Intestines were dark—distended with gas—and showed evidences of intense inflammation. Injection of vessels of mesocolon. Appendix normal. Spleen slightly enlarged.

Dr. J. J. Kinyoun reported on the animal experiments in the case of Jay Man Tong as follows:

June 10, 1900.—Guinea-pig 1, inoculated with emulsion of mesenteric glands stated by Dr. Kellogg to have been taken from the body of the Chinese, Jay Man Tong, who died the day before. Guinea-pig dead in 46 hours. Autopsy showed considerable edema at the point of inoculation, a slight enlargement and marked congestion of the inguinal glands, particularly on the right side. The spleen was not enlarged. The lungs were in a state of commencing pneumonia. The peritoneum was dry.

Coverslip preparations made from the point of inoculation, the spleen, heart's blood and lungs showed a large number of bacilli, short and thick, having rounded ends, with a tendency to bipolar staining. Cultures made from the spleen and heart's blood. After about sixty hours, the several cultures were examined and found to contain a mixture of several organisms, many of which were the same morphologically as those found in the tissues of the animal. It became necessary to again make secondary cultures to isolate the several species.

June 11.—White rat, half grown, was inoculated with

emulsion of the gland from Chinese dead June 10. Rat died after eighty-four hours.

Autopsy showed marked edema, and extensive suppurative necrosis of the abdominal wall, at the point of inoculation, some peritoneal effusion, spleen enlarged and dark in color. The kidneys were the seat of small abscesses. Coverslip preparations made from the point of inoculation, spleen, kidneys and heart's blood, showed enormous numbers of a short thick bacillus having rounded ends, bipolar staining, which were decolorized by Gram's method. Cultures made from the heart's blood, spleen and kidneys were examined after forty-eight hours, when large numbers of colonies of several varieties of bacteria were found. The colonies were so numerous and overgrown that it was impossible to isolate them, so secondary cultivations were necessary.

After several days colonies were isolated which corresponded in every way with those of the plague bacillus. June 24, 1 a. m., a half-grown white rat was inoculated with this culture. Animal dead June 27, 80 hours. Autopsy made June 28 in the presence of Drs. Ryfkogel and Fagan. There was a considerable area of suppurative necrosis at the point of inoculation, and an extensive edema covering the whole abdominal wall. The intestines were dry; spleen enlarged, dark in color and friable. Coverslip preparations made from the spleen, point of inoculation and the heart's blood, showed a short, thick bacillus, having rounded ends, which took a characteristic bipolar stain with thionin. It was decolorized by Gram's method.

Cultivations were made from the spleen and heart's blood and showed at the end of forty-eight hours characteristic colonies of the plague bacillus.

Besides the above cases, there were a number where the indications pointed strongly to the plague, but where either from advanced decomposition or superinfection, the plague bacillus could not be isolated.

The only bacteria which, in their size, shape and coloring peculiarities, might be mistaken for those found in the above cases, are those of hog cholera and those of septicemia of rabbits. Neither the hog-cholera nor the rabbit-septicemia bacilli, however, would be pathogenic for rats; they are therefore excluded as sources of error. The points of resemblance are very few, but Dr. Ryfkogel, to settle the question, inoculated a pigeon with plague bacilli from these cases, with no result. If they had been chicken-cholera or rabbit-septicemia bacilli, they would have killed the pigeon. The plague bacillus is innocuous to pigeons.

On the other hand, every fact speaks for a diagnosis of plague, and nothing valid has, up to the present, been brought against this view.

The following are the arguments against the existence of plague in Chinatown:

1. No two cases have been reported as occurring in the same house; 2. No diagnosis of plague had been made on a living patient; 3. The number of cases found has been too small for so virulent a disease as the plague, and the death-rate in Chinatown has not been notably increased.

In answer to the first objection, it must be remembered that the habitation of a given Chinaman in our Chinatown is a difficult matter to fix, especially at such a time as the present, when they are alert and suspicious. I believe it could only be accomplished by police registration similar to that practiced in European countries.

It is true that no diagnosis of plague has been made on a living patient, and I have it from a China woman, who is an educated physician, that no living patient having the plague will be found until the number of sick is so great that they can not be hidden. At one time lately the corps of white inspectors, all educated physicians, went over Chinatown three times in five days, from Monday till Friday inclusive, without finding any one sick. During three of these days, Monday, Tuesday and Wednesday, no deaths were reported in Chinatown; then immediately thereafter, two and three deaths a day were reported for several days. It is absurd to suppose that in a population of between twenty-five and thirty-five thousand, even when deaths were occurring, no one was sick.

In answer to the third argument against the plague being in Chinatown, it must be remembered that plague does not enter a community rapidly, but slowly and insidiously, and it is not till many disease foci are established that the disease assumes the proportion of an epidemic. It is thought by some well-informed men that the plague strikes a community with the same rapid malignancy that it attacks an individual. This is not so. It advances slowly in a community, attacking house after house. The people living in an infected house fall ill of the disease, but not even all the people in such a habitation contract the plague, or at least not all at the same time. Doctors and inspectors, as is well known, for instance in Bombay, visit such houses with impunity, but do not linger in them.

The outlook for the future is not bright. The plague has a tendency to subside during the summer, but probably it will appear with increased violence next winter. The board of health has done and is doing all the sanitation possible with the meager funds at its disposal, and there is some agitation on foot to put Chinatown in a thoroughly sanitary condition. The heart of the people is, however, not in the work, and they refuse to believe the plague is present. The daily press keeps up a steady abuse of the board of health, and of Dr. Kinyoun, on one hand, and urges several fantastic, impracticable schemes for cleaning Chinatown, on the other. Glimmerings of the truth, however, occasionally filter through. They protest too much that the plague is not present, and on June 29 last, one of the bitterest enemies of the board of health, the *San Francisco Chronicle*, in an editorial, even spoke of Chinatown as "the infected property." Infected with what?

It is a wise custom of the medical profession not to answer abuse appearing in the daily press by return abuse, and the board of health, Dr. Kinyoun and Dr. W. H. Kellogg have acted up to the best traditions of the profession in this respect. They have done and are doing their work well, without paying any attention to the papers.

SPECIAL ARTICLE.

RELATION OF PHARMACY TO THE MEDICAL PROFESSION.*

VIII.

ELIXIRS.

In the administration of liquid medicines, eligibility of the preparation is of importance scarcely secondary to that of therapeutic efficacy. With the advent of the elixirs, the former impalatable mixtures and decoctions were made not only more palatable but often even inviting to the other physical senses—odor and color. For about twenty years—1870-1890—the elixirs enjoyed great medical favor, they with the fluid extracts being the chief product of nearly a score of manufacturing pharmacists of national reputation. But like many other good things, the "elixir idea" became a craze; everything desired was presented in this form until drugs of the most

* The first of this series of articles appeared in THE JOURNAL of April 21.

repugnant taste, as well as agents of the most incompatible character, were associated in the form of elixirs. As the preference for the elixir rested primarily upon its name, suggestive of something sweet and agreeable, there was much rivalry engendered through the desire to present the most elegant and palatable preparations, with the result of sacrificing therapeutic quality and strength for elegance and taste.

THE DECADENCE OF ELIXIRS.

As a consequence the elixirs fell into disrepute and, with but few exceptions, are now comparatively seldom used. And yet the elixir is the best form of administration adapted to a great many medicinal agents and their combinations, if proper care and judgment be exercised in their selection. To produce an agreeably flavored saccharine vehicle, containing sufficient alcohol to make it a good solvent, and to promote the prompt absorption or effect of the medicinal agent, and, when required, associated with adjuvants and correctives to mask the taste and to modify their effect, is to realize the ancient motto of Asclepiades: *Curare, cito, tuto et jucunde.*

The decadence of the elixirs was also greatly encompassed by the various solid forms of preparations, modifications of pills, such as tablets, which have for some time been the ruling fashion. The tablets have much less to commend them as a general form of medication than have the elixirs, but, unlike the elixirs, neither incompatibility nor insolubility needs to be taken into consideration in their preparation. In the elixirs the most apparent of such pharmaceutical objections were self-evident, but in the tablets "everything goes," and to this fact, more, perhaps, than any other, do the tablets owe their popularity.

CASCARA PREPARATIONS.

While there is no end of cathartics, and numberless combinations of these in pill, granule and tablet-form, there has always been a desire for a liquid laxative of pleasant taste, prompt but agreeable in effect. For children, women and persons of sedentary habits generally, such a preparation seems almost a necessity. Until the introduction of cascara sagrada some twenty-five years ago, this want was filled chiefly by senna and, on the Continent, by Rhamnus frangula, somewhat similar in its action to cascara sagrada (Rhamnus purshiana). The value of senna, aside from its immensely popular domestic use, is attested to by the medical favor even such proprietary medicines as Syrup of Figs have enjoyed. As has already been pointed out, that largely used domestic medicine "Castoria" is substantially a syrup of senna. The official syrup of senna will be found a superior preparation, provided it is made strictly according to the process of the Pharmacopeia. With reference to the cascara preparations, there are several things to be taken into consideration in determining the activity of its various preparations and their indications. No experienced physician will prescribe such gentle laxatives as senna or cascara sagrada when a strong cathartic or purgative is indicated, and yet fault is often found with cascara preparations because they do not act in those cases in which a saline purgative, or castor-oil, should have been administered. The very mild action of cascara is what makes it valuable in habitual constipation, its administration gradually restoring the intestinal movement to its normal condition and it should therefore not be administered when irritants, such as aloes, colocynth, podophyllum and other resins, are indicated. Owing to the great demand for cascara sagrada, to its being indigenous to only a limited area on the Pacific slope, and to the fact that the bark should be collected under certain conditions, an active reliable bark is not always obtainable in the drug market, and an inferior, sometimes worthless, specimen of the drug is used for its preparations. To disguise its extremely bitter taste, various drugs have been used, chiefly licorice, and also aromatics and correctives. More recently the so-called tasteless preparations of cascara have been introduced. These are made by combining magnesia with the drug, which modifies the bitter taste, and, it is said, also its cathartic action. The first of these preparations was the "Cascara Cordial," whose formula was published whn introduced by the manufacturers. It contained berberis aquifolium with licorice and aromatics. Other similar preparations are: "Arolax," "Elixir Purgans," "Elixir Purgative," "Kasagra" and many different brands of "Cascara Aromatic" of which the "Extractum Rhamni Purshianæ Fluidum" of the National Formulary is the type. This is the fluid extract of cascara deprived of bitterness, containing some licorice and flavored with compound spirit of orange.

The following elixirs are also given:

Elixir Rhamni Purshianæ, N. F.

℞.	Fl. ext, rhamni pursh	36¼	25
	Elixir taraxaci comp	318¾	75
M.			

Elixir Rhamni Purshianæ Compositum, N. F.

℞.	Fl. ext. rhamni pursh	33⅛	12|5
	Fl. ext juglandis	31⅝	6|5
	Syrupi senna	36¼	25
	Elixir taraxaci comp	3xxv	100
M.			

The dose of either of these is one to two teaspoonfuls.

VIRBURNUM COMPOUNDS.

There are many preparations of virburnum of similar composition. While Virburnum prunifolium or "black haw" was not introduced into general practice until about twenty-five years ago, the Virburnum opulus or "cramp bark" had long been used as a uterine tonic and sedative, especially by physicians in the Central States. Associated with these were the "false" and the "true unicorn root," Aletris farinosa and Helonias dioica; "life root," Senecio aureus; "Wildgam," Dioscorea illosa; "skullcap," Scutellaria lateriflora; "skunk-cabbage," Symplocarpus fœtidus, "blue cohosh," Caulophyllum thalictroides, "squaw vine," Metchellarepens; Hydrastis Canadensis and similar indigenous drugs.

Formulas for various decoctions, tinctures, extracts and syrups of these drugs have appeared in the American Dispensatory and have been largely employed by the so-called eclectic physicians. Many similar preparations are offered at the present time under more or less descriptive or therapeutically suggestive names.

Among these may be mentioned: "Aletris Cordial," "Helonias Cordial," "Dioviburnia," "Utero-tonic," "Eumetria," "Liquor Uterans" and "Hayden's Virburnum Compound." The latter, prepared after the formula of Dr. Hayden, is the most popular of all these preparations. The famous "Lydia Pinkham's Vegetable Compound" is of somewhat similar composition. As will be seen, this group represents only the more simple of galencial preparations, or mixtures, and does not require any special skill in manufacture. The drugs are easily obtained from which the preparations are made by extraction with suitable mentsrua, as in the following from the National Formulary:

Tinctura Viburni Opuli Composita.

℞.	Virburnum opulus		
	Dioscorea, āā	3viiiss	35
	Scutellaria	3iiss	10
	Cloves	3xiiss	50
	Cinnamon		
	Glycerin, āā	3xviss	65
	Alcohol	℥xxiv	750
	Aquæ, q. s. ad	℥xxxii	1000
M.			

Or a prescription may be formulated:

℞.	Fl. ext. viburni opuli	m.160	10
	Fl. ext. dioscoreæ		
	Fl. ext. scutellaria, āā	m.80	5
	Tinct. cinnamomi		
	Tinct. caryophylli, āā	36¼	25
	Glycerini	32½	10
	Elixir adjuvantis	330	120

M. Sig. c. p., t. i. d.

Somewhat similar is the well-known preparation "Celerina," the "nerve tonic and stimulant," said to contain in each fluidram 5 grains each, coca, kola, virburnum and celery.

The National Formulary has the following:

Elixir Apii Graveolentis Compositum.—(Compound Elixir of Celery.)

℞.	Fl. ext. apii sem.		
	Fl. ext. viburni prunifol.		
	Fl. ext. erythroxylon		
	Fl. ext. sterculide, āā	3iss	6
	Elixir aromatici, q. s.	3xxv	100

In order to prevent confusing the botanic name "Apium" with "Opium," the full name of the celery plant, Apium graveolens, has been selected for the title of this preparation.

"MERELY MIXTURES."

While these preparations are largely prescribed and no doubt useful, the various drugs from which they are prepared have nearly related virtues, and the different combinations, it would appear, could be formulated as wanted, with better advantage to the physician, patient and pharmacist. The fluid extracts and tinctures of these drugs, prepared from the best quality of drugs, are easily procurable by any pharmacist, and so the preparation becomes excedingly simple. This group may easily be regarded as the class of preparations which have no *raison d'etre*, as pointed out in the last article of this series by a well-known manufacturer. They are "merely mixtures," requiring no skill in their preparation. They present no originality in combination, but when a new brand appears under a fancy name it adds to the trials of the physicians, who have, to stand in the breach and have their time and patience frittered away by the advance agents, as shown by Dr. Witherspoon in his Oration on Medicine at the last meeting of the AMERICAN MEDICAL ASSOCIATION. These unnecessarily load up the pharmacist's shelves and become a burden to him. The prices at which they sell are usually out of proportion to the absolute cost. The pharmacist is required to purchase full original bottles of each of a score or more of these different named preparations in order to dispense a small quantity occasionally, the remainder being left on his hands, until they deteriorate. He naturally complains because he is required to keep on hand so many of these similar preparations, which he could mix for the physician. He also objects because, as a rule, these preparations are introduced by those who have no interest in either pharmacy or medicine.

This class of preparations have nothing to commend them to medical men and soon degenerate into popular medicines through their suggestive titles and the many often imaginary ills they are recommended to cure.

Therapeutics

Dionin.

Smithwick has used dionin as a cough remedy in 30 cases, of which he has records: 12 of chronic bronchitis, 7 of phthisis, 3 of whooping-cough, and 8 from various other causes. Sixteen were apparently cured, 9 benefited, and only 5 not benefited. He has never noticed any unpleasant effects, in which it has a decided advantage over morphin and can be safely adapted for children where morphin should not be used. He has never noticed any tendency to habit in its use even when it is prolonged. As an analgesic it is inferior to morphin.—*Merck's Archives*, June.

Aqueous Extract of the Suprarenal Gland.

In *Merck's Archives* for June the physiologic action of suprarenal gland extract is first briefly stated by Somers, who claims that the non-toxicity of the drug renders it especially applicable for inflammations of the mucous surfaces. In no case has he observed idiosyncrasies toward the drug, and besides being harmless itself, it to a marked extent prevents the toxic effects of cocain. The solutions are non-irritating and have no deleterious after-effects. Its action being local, there is no danger of contracting a useless habit. The great difficulty has been in obtaining a stable solution that will retain its power and yet remain sterile. Putrefaction, however, does not destroy its special qualities, even after an extreme degree of decomposition. Glycerin in from 10 to 25 per cent. will prevent putrefaction for several days, and in the following formula of Ingals it will remain undecomposed from three to five weeks:

℞. Adrenal ..... gr. xv
Boric acid ..... gr. iv
Cinnamon water ..... ʒi
Camphor water (hot) ..... ʒii
Boiling water, q. s. ad ..... ʒss
M. Macerate four hours; filter.

This is useful in mild congestions, but can not be depended on to control hemorrhage or subdue active inflammation. Alcohol, in proportion of 1 minim to a dram in the aqueous solution, will preserve it for three days. Salicylate of soda, 1 grain to a dram, will enable it to keep from four to six weeks, and carbolic acid in the same proportion will preserve it several months and not impair its qualities. The following formula as a local application in hay-fever is often productive of marvelous results and does not lose its physiologic activity for several months:

℞. Adrenal ..... gr. xx
Phenic acid ..... gr. ii
Eucaine B ..... gr. v
Distilled water ..... ʒii
M. Macerate ten minutes; filter.

Used alternately with orthoform it will prove of value in hay-fever and painful congestion of eroded mmbranes. The activity depends on the contractile power of the extract on the small arterioles and basement membrane, and it is more prominent where it can remain in contact with the tissue for several minutes. When used to prevent hemorrhage it should be applied to the parts, then cocain applied and the adrenal again applied. In operations where it has been used the results are in every way more satisfactory than when not employed, and it seems to enhance the anesthetic effect of cocain. Somers concludes that aqueous extract of suprarenal glands is the most powerful astringent and vasomotor constrictor that we possess. Its action is peripherally exerted directly on the vessel-walls and is limited only to parts with which the drug comes in contact. It is non-toxic, non-irritating, and does not cause habit or tolerance. It prevents the toxic effects of local anesthetics by retaining them in the tissues and preventing absorption, and while it readily decomposes, it does not lose by this its physiological activity. It first blanches and then contracts mucous tissues and will subdue active or passive inflammation. Its activity is not impaired by boiling, and it may be readily sterilized in this way, while carbolic acid will preserve the solutions indefinitely and not impair their value. It will prevent primary, and greatly lessen danger of secondary, hemorrhage. Its action is rapid, manifesting itself in twenty seconds, attaining its maximum in five minutes and lasting from one and one-half to twenty-four hours. It increases the tonicity of the parts, auguments the action of other drugs, especially cocain, and diminishes post-operative swelling. It markedly restricts exuberant granulation tissue wherever situated, and, finally, it diminishes scretion and aids in more rapid healing.

Treatment of Epididymitis.

That so large a majority of patients afflicted with epididymitis are compelled to remain on their feet has caused H. M. Christian, in the *Therapeutic Gazette*, March 15, 1900, to describe the treatment for this affection followed in the University and Polyclinic hospitals of Philadelphia. The testicle is first gently massaged with a small amount of 20 per cent. guaiacol ointment made up with lanolin. The same ointment is then spread on lint and applied over the affected testicle and the whole of the scrotum is wrapped in absorbent cotton. A snugly-fitting, laced suspensory bandage is then applied. This treatment is repeated every other day for about six days. By this time, inflammation has subsided, the testicle has lost its sensitiveness and an ointment made up as follows is substituted, the application being made in the same manner.

℞. Ung. hydrarg.
Ung. belladonnæ
Ichthyol
Lanolin, āā ..... ʒii

If the patient can be kept in bed two or three days and the affected parts poulticed, or kept enveloped in moist heat, frequently applied, and such hygienic medication administered as the case requires, before beginning the guaiacol treatment, a more speedy relief will follow. However, in the last few weeks he has treated sixty acute walking cases, and in all but six great relief from pain followed within twenty-four hours.

New Facts Regarding the Use of Croton Oil.

A. K. Bond, in the *Therapeutic Gazette*, March 15, 1900, gives the results of recent experiments with this little-used drug. It has been the custom to regard this substance as a last

resort in extreme cases, and in nearly every instance the text-books state the dose as one drop. Nearly the same description is given in all text-books, namely, that it is a "violent drastic and hydragogue cathartic, which may excite an erythema, even when taken internally." For these reasons it has been shunned. The prejudice, he finds, is largely due to the dose employed. A drop of croton oil is in proportion to forty grains of calomel or one grain of opium. Confining himself to one-eighth, or one-sixth of a drop, a gentle purgative action is secured, without violent or even disagreeable results. As with many drugs, caution must be used to learn a person's tolerance of larger doses; and contraindications to its use are pronounced heart weakness or inflammation of the digestive tract.

He finds little to corroborate the idea that is extant regarding the uncertainty of croton oil, and all such uncertainty is within the power of the pharmacist or manufacturer to overcome. To avoid any such uncertainty of action, he supplies the drug personally, when required, from a vial of known strength. He has found the drug to act harshly when it followed ineffectual doses of other purgatives. The simplest method of administration is by bread pill made on the spot. In moderate doses, he finds that croton oil produces two or three small, usually dark, discharges, with very little, if any pain. He has never known hardened feces to follow its use, and thinks the drug must excite the outflow from the intestinal glands.

Pericarditis in Bright's Disease.

Bose *(Nouv. Montpellier Méd.)* concludes an article on pericarditis in Bright's disease with the following treatment:

For the heart complication, dry cups with repeated injections of ether, the latter remedy being sufficient to control the dyspnea.

For the underlying uremia, purgative enemata, wet cups over the kidneys and general blood-letting, followed by intravenous injection of saline solution.

Not too much is to be expected from the above regimen, because the double intoxication of uremia and the pneumococcus rendered all hope feeble.

To Relieve Neuralgia of Phthisical Patients.

Capitan prescribes the following ointment. A very small quantity is lightly applied and the part covered with some impermeable material and absorbent cotton. The application must be discontinued as soon as the skin becomes even slightly reddened:

℞. Guaiacol
Methyl, salicylatis, āā ..... gr. lxxx
Ext. belladonnæ ..... gr. iiiss
Ext. opii ..... gr. iv
Vaselin
Lanolin, āā ..... ℥ss

In very acute cases menthol (15 grains), antipyrin (30 to 45 grains), or potassium bromid (80 grains) may be added.—*Gaillard's Med. Jour.*

Treatment of Mosquito Bites.

For the treatment of mosquito bites the application of aqua ammoniæ may counteract the infectious principle, but this is doubtful, for it does not penetrate the tissues, as did the insect's bill. At any rate it reduces the suffering if applied with a little rag and left *in situ* a few moments.

Menthol sometimes affords considerable relief, the crystalline, solid or camphoraceous substance being rubbed over the surface.

Neal highly recommends the following mixture for local applications:

℞. Pulv. ipecacuanhæ ..... ℥ss
Spir. vini rectif.
Etheris, āā ..... ℥ss
M.

Ottinger affirms that ammonia is of little benefit, and that the best results are obtained from the application of ichthyol. In numerous bites and stings of flies, gnats, bees, wasps, etc., he found that it quickly and surely caused the phenomena of inflammation—which he attributes to its vasoconstrictor action—to subside. It is best applied pure in a quite thick layer, though it may be used in the form of an ointment.

Morris also suggests painting the bites or stings with a saturated solution of either camphor or sa'ol in ether; or a mixture of 30 grains each of salicylic and benzoic acids in 7 drams of collodion, may be tried. Brocq and Jacquet recommend the following as effective for the bites of fleas, mosquitoes, gnats, sand-flies, mites, etc.;

℞. Camphorated oil of chamomile ..... parts 100
Liq. styrax ..... parts 20
Peppermint essence ..... parts 5
M. Apply.

When many bites have caused violent local tumefaction and congestion a cold lead-water poultice forms a very soothing application. Lemon juice is also useful.—*Monthly Cyclopædia of Practical Medicine.*

Digitalis in Pericarditis.

Baginsky, in his Berlin clinic, has found sixty cases of pericarditis in children, of which twenty-four were of rheumatic origin. Careful percussion is necessary to diagnose the condition. It is rare to see a case of polyarthritic rheumatism without involvement of the heart, and the lesions of the pericardium are proportionate to the number of recurrences. Salicylic acid he has found to fail in these cases, but he has obtained good results, notably in the relief of dyspnea and edema by administering digitalis and diuretin.—*Sem. Med.*

Nephrolithiasis.

Dr. Charles G. Cumston, of Boston, Mass., in the *International Med. Magazine*, says that in the attempt to dissolve renal concretions by alkalines he has frequently ordered the following combination, with apparently happy results:

℞. Sodii phosphat.
Sodii bicarb., āā 45
Lithii carbonat 10
M. D. in scatul. Sig. A dessertspoonful dissolved in a glass of water thrice daily.

Danforth speaks most highly of potassium citrate in the dose of two grams every three or four hours, and the writer has prescribed it with good results, as follows:

℞. Potass citrat 1
Sodii bicarb 5
Lithii carb., efferves 25
M. In chart. No. 1. D. tal. dos. No. xx. Sig. Take four or five powders daily in a glass of water.

When there is pyelitis the writer has given urotropin, dose 5 grams in water several times daily, on account of its real antiseptic properties in the genito-urinary tract, or the following formula:

℞. Acidi benzoic.
Natrii salicylat., āā 3
Aquæ chloroformi 90
M. D. Sig. To be taken in four doses during the day.

For severe hematuria we have employed ferripyrin in several cases, with a satisfactory outcome, combined as follows:

℞. Ferripyrini 1
Tinct. gentian comp 10 5
Syr. cort. aurant 90
M. D. Sig. Take a dessertspoonful every two hours.
Or:
℞. Ferri albuminat 25
Acidi tannici 05
Sacchar. alb 5
M. In chart. No. 1. D. tal. dos. No. xv. Sig. Take three or four powders daily according to indications.

A cure at some mineral resort is really of some value, and at these places the advantages of producing oxidation of uric acid by baths, strict attention to diet and a well-directed exercise, tend to have an excellent action.—*The Med. Bull.*

Treatment of Prostatis.

Abeille, of Nantes, has been very successful with an original treatment of gonorrheal prostatitis which he describes as follows in the *Revue Clin. d'Aur. et de Gyn.* After securing anesthesia of the urethra with cocain, he introduces a Nélaton sound, No. 12, and connects it with a reservoir containing potassium permanganate at 1 per 4000 or 1 per 2000, according to the ability of the urethra to support it, at a temperature of 35 to 38 C. The liquid passes through the sound up to the sphincter and flows out between it and the walls of the canal. When the penile portion is thus well irrigated, the

sound is inserted through the sphincters, without interrupting the flow of the liquid, and the bladder receives the same cleansing. If there is a strong desire to urinate, the urine can pass out through the sound. With this treatment Abeille has aborted many a case of prostatitis which would have suppurated if left to itself.—*Revue Internat. de Méd. et de Chir.*

Strychnin in Alcoholic Neuritis.

E. R. Houghton (*Med. Rec.*) cites the case of a young man suffering from alcoholic neuritis, for which he was treated ineffectually for over a month. Finally he was put on 1/10 gr. strychnin four times a day, and improvement began at once. Two weeks after this treatment was begun the patient was about on crutches, and in two weeks more was walking about. At the present time (two weeks later) he is entirely well.—*Merck's Archives.*

Apomorphin.

In the June number of *Merck's Archives*, Douglas states that apomorphin acts as a prompt and well-nigh infallible hypnotic, if given hypodermically in doses of 1/30 gr. In some patients, however, this is too large and produces nausea. The proper dose is one that should just fall short of this effect, and 1/30 gr. being about one-third of the ordinary dose, it is naturally safe. He has found that it becomes inert if given in a saturated solution of boric acid, of which fact he has not discovered any mention in the medical literature. There is no danger of producing habit, as an overdose at once causes emesis. The advantages it possesses besides safety and lack of habit production, are its promptness of action in producing sleep in less than half an hour, its almost absolute certainty of action, even in the wildest delirium, and the refreshing character of the sleep.

Treatment of Uremic Attacks.

Use hypodermoclysis, provided the symptoms are not pressing and there is no trouble with absorption because of edema; when the danger is pressing, or edema is present, even in a very slight degree, use intravenous injection. In a large proportion of cases the patient should be bled, particularly if nervous excitement or convulsions are present or threatened, because this will relieve cerebral congestion, and aid in the elimination of toxins and in the absorption of the fluid from the subcutaneous tissues; or if intravenous injections are used, it will make room, so to speak, for the artificial serum. I believe this is of importance, unless the circulation is evidently very feeble from profound debility and anemia. Again, it is of great importance to aid sweating by the use of the hot pack, using care that heat stroke is not produced; but this again should not be used unless the patient fails to sweat, nor if he has a feeble heart.—*Hare: The Therapeutic Gazette.*

Oil of Wintergreen in Gynecology.

At a meeting of the Paris Obstetrical and Gynecological Society, M. Jouin reported that he had treated metritis and its various complications, but more particularly gonorrheal endotrachelitis, by means of applications of oil of wintergreen, and with success. He stated that in some cases the medicament has found its way into the Fallopian tubes, and cured old cases of salpingitis.—*N. Y. Med. Jour.*

Medicolegal.

Sixty-Four Years Makes an Old Man.—Without any discussion of what may be said to constitute an old man, or when one becomes such, the Supreme Court of Mississippi holds, in the case of Bertram vs. The People's Railway Company, that a man 64 years of age was manifestly an old man.

Not Questions for Medical Experts.—A few cases seem to support asking medical experts, in prosecutions for rape, such questions as whether that crime can be committed upon an ordinary, mature female. But the Supreme Court of Iowa says that the better opinion appears to be the other way, for the reasons: First, that to permit such evidence would allow the witness to assume the functions of the jury; and, second, the matter inquired about is not the subject of expert evidence. Wherefore, it holds, in State vs. Petersen, that an objection to a question of this character was properly sustained, as also objections to questions propounded to medical experts, based on facts that the evidence tended to prove, calling for an opinion as to whether or not it was possible for the defendant to have had intercourse with the prosecutrix, a German girl 15 years of age, against her will and objection.

Sale of Intoxicating Liquor in Compounds.—Under the law, the Supreme Court of Iowa says, in the case of State vs. Gregory, a registered pharmacist has a right to compound and sell drugs and medicines, even though they contain intoxicating liquor. But where, as in that state, he is not allowed to sell any preparation or compound, intoxicating in character, that might be used as a beverage whether or not a compound is such that a sale thereof is inhibited is not a question of law, but of fact for the jury. And, in a prosecution for keeping a liquor nuisance, or an unlawful sale of intoxicating liquor, the test would seem to be, and the court holds that the jury should be instructed, that, if the liquor sold was so compounded with other substances as to lose its distinctive character as an intoxicant, and no longer desirable for use as a stimulating beverage, and was in fact a medicine, then the sale of it by a registered pharmacist did not violate the law.

Authorized Disclosures in Murder Cases.—Section 834 of the New York Code of Civil Procedure, which provides that "a person duly authorized to practice physic or surgery shall not be allowed to disclose any information which he acquired in attending a patient," etc., was enacted for the protection of the patient, and to enable him to make known his condition to the physician without danger of any disclosure by him. In a case to which this section of the code is applicable, the privilege can not be waived by any one save the patient, and, if he be dead, the seal of the statute can not be removed. But Mr. Justice Hooker, who made these statements at a special term of the Supreme Court of New York, goes on to say, in People vs. Benham, that the aid of this section can not be invoked to shield a person charged with the murder of the patient. And, such declarations and confidential communications from the patient to the physician being admissible under this statute, when they tend to prove the crime of murder, he holds that they are none the less admissible when they tend to disprove it.

Impulses, Delusions, and Proof of Insanity.—The doctrine of irresistible impulse, which has been upheld by some supreme courts, the Court of Criminal Appeals of Texas disavows. It maintains, in Cannon vs. State, that, if a person has an irresistible impulse to commit a crime, and does not know the nature and quality of the act, he is insane. If he does know right from wrong, and knows the act to be wrong, he is not insane. Likewise, the court holds that there is no grade of delusion that mitigates crime. In other words, a party can not be half insane. If at the time he kills another he is laboring under a delusion, and such delusion deprives him of his capacity to know right from wrong, he is insane. Moreover, general reputation of insanity, the court holds, can not be proved. Nor does it consider that the sanity or insanity of a defendant's wife can throw any light upon his mental status. And because it is convinced that drugs and narcotics may have a more injurious effect upon the mental condition of one person than they do upon that of another, it holds that it is not admissible to show that one person was insane simply from the use of such drugs. Not only does it consider that this would certainly be the rule where there was no proof as to the relative physical resistance of the different parties using the drugs as to the effect of such drugs, but that it would also be the case even if the proof showed that they used the same amount of drugs for the same length of time, as it would be true where there was no proof that they used the same amount of drugs or for the same length of time.

Mental Injury Amounting to Total Disability.—In the JOURNAL of May 12, 1900, on page 1181, were given the views which the Court of Civil Appeals of Texas arrived at on this subject on a rehearing which it granted in the case of the Fidelity & Casualty Company vs. Getzendanner. As there stated, the court decided that it had erred in condemning, on the first hearing, a charge which had been given to the jury with regard to what mental injury would amount to a total

disability under a policy of insurance against accidents to the person which should "wholly disable and prevent the assured from performing any and every kind of duty pertaining to his occupation." But after its first decision was rendered, and apparently before it had time to reverse itself, the Supreme Court of Texas was called upon, through the medium of a certificate of dissent, to give its opinion upon the charge in question. Whether or not it was in the meantime advised of the effect of the rehearing does not appear, but regardless of the fact that the court of civil appeals considered that it had made a mistake in the first instance in condemning the charge, the supreme court now holds that it was right in condemning it. The supreme court does not enter into any particular discussion of the general subject. It believes that the great weight of authority is against holding to a literal construction of such language as that used in this contract. At the same time, to say that one who is disabled by an injury is wholly disabled to do anything, merely because he can not do it "in a manner reasonably as effective as the same would have been performed if the injury had not been sustained," it declares seems to it a solecism in language, if it does not involve a contradiction in terms. And as that is what it considers was the practical effect of the charge in question, it holds that it involved a technical error, as it could only be justified upon the theory that the slightest impairment of the mental faculties wholly disables one who is engaged in buying and selling, for example, from pursuing his avocation, whereas such is not the fact, because there are infinite gradations in mental deterioration, and it is a matter of common knowledge that persons with some degree of cerebral disturbance may continue to prosecute with reasonable efficiency a business which requires the exercise of judgment and discretion. As well, it seems to think, say that a carpenter with a sprained finger is totally disabled, if it be that he can not pursue his calling as effectively as if he had not received the injury, although he may be able to do, without serious inconvenience, 90 per cent. as much work as he could have done before the accident happened.

Physical Examinations in Federal Courts.—It is settled in the Supreme Court of the United States, as the latter declares, that no power exists at common law to order a surgical examination of the plaintiff in an action to recover damages for injury to the person; in other words, that the court has no inherent power to make an order for such an examination in such a case. This rule, too, it expects to be followed in United States courts sitting in states where no statute has been passed providing otherwise, but in which it has been held that the court has inherent power to order the examination of a plaintiff in this class of action without the aid of a statute. And this, notwithstanding that section 721 of the Revised Statutes of the United States provides that "the laws of the several states, except where the constitution, treaties, or statutes of the United States otherwise require or provide, shall be regarded as rules of decision in trials at common law in courts of the United States, in cases in which they apply." But where a state has a statute which provides for the making of an order for the examination of the person of the plaintiff in such a case, the supreme court now holds, in Camden & Suburban Railway Company vs. Stetson, the section just quoted applies that statute to cases of such a nature on trial in federal courts sitting in that state. Nor does it consider that the citizenship of the plaintiff at the time of the injury is material so long as the court below has jurisdiction of the case and the parties at the time of the commencement of the action. Such a state statute, the one under consideration being the New Jersey act of May 12, 1896, it does not think violates the federal constitution. The statute, it says, concerns the evidence which may be given on a trial in the state, and, it further holds, does not conflict with any statute of the United States upon that subject. It is not a question of a general nature, like the law merchant, but simply one concerning evidence based upon a local statute applicable to actions brought within the state to recover damages for injury to the person. Hence, the statute comes with the principle of the decisions of this court holding a law of the state of such a nature binding upon federal courts sitting within the state.

On Vaccination and Revaccination.—Section 23 of chapter 214 of the North Carolina laws of 1893 contains, among other provisions, this clause: "The authorities of any city or town, or the board of county commissioners of any county may make such regulations and provisions for the vaccination of its inhabitants under the direction of the local or county board of health or a committee chosen for the purpose, and impose such penalties as they may deem necessary to protect the public health." This, the Supreme Court of North Carolina holds constitutional, being, as it pronounces it, in the case of State vs. Hay, an exercise of that governmental police power to legislate for the public welfare, which is inherent in the general assembly, except when restrained by some express constitutional provision. It calls it but everyday common sense that, if a people can draft or conscript its citizens to defend its borders from invasion, it can protect itself from pestilence by such measures as medical science has found the most efficacious for that purpose. If, in the days of imperfect communication, smallpox often destroyed a third or more of the population of a country which it attacked, and so futile was every other precaution and the most careful seclusion that the greatest sovereigns fell victims to it, the court points out that the present rapid means of intercourse between the most distant points would so spread the disease as to quickly paralyze commerce and all public business, if the government could not at once stamp it out by compelling all alike, for the public good as much as for their own, to submit to vaccination. True, there are those who, notwithstanding the well-ascertained statistical facts with regard to the protection afforded by vaccination, deny the efficacy thereof, as there are always some who will deny any other result of human experience, however well established. But the legislature, acting in its best judgment for the public welfare upon the information before it, having deemed vaccination necessary for public protection, its decision, being within the scope of its functions, must stand until repealed by the same power. The power of the legislature to authorize county and municipal authorities to require compulsory vaccination, has been exercised by nearly every state, and there are no decisions against it. And the court goes on to say that even if it were of opinion with the small number of medical men who contend that vaccination is dangerous to health, and not a preventive of the disease; the court is not a paternal despotism, gifted with infallible wisdom, whose function is to correct the errors and mistakes of the legislature. Taking up the construction of section 23 before mentioned, the court holds that it does not require that the board of aldermen of a city shall pass the ordinance authorized in conjunction with the board of health. It holds that it merely provides that the execution of the ordinance—i. e. the vaccination—shall be under the direction of the local board of health, or a committee appointed by the aldermen. And it holds a valid exercise of the power conferred the passage of an ordinance, on the 13th of the month, that all citizens of the city "not successfully vaccinated within the last three years" should be vaccinated between that date and the night of the 17th, and that all persons refusing to be vaccinated should be fined $10 for every day they refused after being called upon by the doctor appointed, or imprisoned for 30 days. It says that it is true that there may be some conditions of a person's health when it would be unsafe to submit to vaccination, and which, therefore, would be a sufficient excuse for noncompliance; but, it holds, it does not vitiate the ordinance that such exception is not provided for and specified therein. It is not a defense that a person *bona fide* believes that it will be dangerous for him to be vaccinated, or believes that he is already sufficiently protected by former vaccination. Nor, the court further states, would the opinion of his personal physician on either point be conclusive (though it would naturally have weight with the jury), for there might be evidence or circumstances tending to the contrary. Indeed, as to a former vaccination being sufficient protection, the court holds that the opinion of the official physician supervising the vaccination should be presumptively correct. Finally, that which would relieve from a compliance with the ordinance, it holds, is a matter of defense, the burden of which is upon the defendant, and is a fact to be found by the jury.

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PYREXIA AND ANTIPYRESIS.

There was a time when the febrile process, as well as the inflammatory one, was considered a distinct morbid entity, with more or less constant and characteristic features; and, although we are not yet cognizant of the intimate nature of the reactions that take place under such conditions, it is appreciated that they are due to the operation of a number of factors of varying kind and degree; so that the resulting phenomena may be correspondingly variable. It has further been maintained, as Liebermeister[1] points out in a philosophic communication on the subject of antipyresis, that the course of the febrile process should not be interfered with, but that it should rather be supported. It has, however, been learned more recently that while there are some conditions in which this precept is a good one to follow, there are others in which it is advisable to control the fever.

It was at one time thought that the febrile process represented a curative effort on the part of Nature, and antipyresis was, therefore, believed to be contraindicated; and, even now, fever is conceded to be a factor in the process of recovery, although when necessary, steps should be taken to mitigate its severity. Cold water has been employed on a larger or smaller scale for more than one hundred years, but it is only within the past forty that it has received at all systematic application. If it be granted that the febrile process exerts a conservative effect, it should not be forgotten that it is also capable of harm.

The dangers of fever depend in part on the fact that the total bodily metabolism is increased, while in consequence of impairment of appetite and of digestion, nutritional compensation is rendered more difficult; therefore, fever of any considerable degree is attended with loss of flesh, and long-continued, chronic fever may result in marked emaciation. In acute febrile diseases, and when the fever is high, there is also danger from the elevation of temperature itself. The human organism and all of its functions are adjusted for a temperature of 98.6 F., and any considerable deviation from this must have a bad effect on both structure and function, as manifested especially in parenchymatous degeneration when the temperature remains persistently high.

All tissues exhibit, during the existence of fever, a tendency to degeneration; so that mechanical or chemical influences that occasion little or no harm in the healthy body induce most serious changes, or even necrosis or gangrene. Wounds and ulcers show no tendency to heal while fever is present, but rather a disposition to extend. The functions of vital organs, as the heart and the brain, are interfered with by high bodily temperature. Cardiac weakness gradually develops in the presence of persistent high fever, and paralysis of the heart is one of the most common intimate causes of death under such circumstances.

On the other hand, as has been already stated, the febrile process is attended with increased metabolism, and this is antagonistic to the invasion of micro-organisms, and probably also inimical to their presence. It may be concluded that combustion of the bacterial toxins is, at the same time, hastened by general increase in oxidation processes. The indication for the physician is, therefore, to inhibit the deleterious effects of fever, without interfering with its beneficial effects. Practical have outstripped theoretical considerations in this connection, and, for a long time, abstraction of heat has been resorted to for the relief of severe febrile disorders, and when the treatment has been judiciously carried out, the results have entirely justified the practice. It may be admitted that the febrile process need not be attacked in every case, but only when it is attended with or threatens danger.

When abstraction of heat is desired, the full bath is the most efficient agent, and this may be, in accordance with the nature of the disease and of the patient, tepid, cool, or cold. During the cold bath, while heat-dissipation is increased and the temperature of the surface is lowered, heat-production also is increased, and the temperature of the interior of the body is perhaps raised, although subsequently the internal temperature also declines. Thus, by repetition of the bath, sufficient reduction in temperature can be effected to avert danger from this source, while at the same time the curative effect of the febrile process is not prevented, in so far as this depends on increased metabolism. Respiration becomes deeper, the action of the heart strengthened, the mind clearer, appetite and digestion improved, the patient feels refreshed and recuperative sleep is favored. Perhaps, also, toxins present are destroyed as a result of increased oxidation-processes. In order not to lose the good effect of the febrile process, it is Liebermeister's practice not to interfere, as a rule, with the fever during the day, unless it be excessive, and to give a sufficient number of baths during the night to bring about a satisfactory remission. The danger of high fever resides especially in its continuousness, and the plan mentioned overcomes this.

Hyperpyrexia may, however, be more conveniently reduced by the use of antipyretic drugs; but the results from the use of such remedies exclusively have been by no means good, because, even if no toxic effect is induced, the useful influence of the febrile process is also removed with the reduction in temperature. Antipy-

1. Berliner Klin. Woch., 1900, No. 12, p. 249.

retics may, however, be advantageously employed in cases in which the baths appear incapable of inducing remission in the fever, or in which they are contraindicated for one reason or another. The object to be attained, however, is not an entire suppression of the febrile process, but rather the induction of adequate remissions from time to time.

THE RELATION BETWEEN PATHOLOGY AND THERAPEUTICS.

Intelligent and successful treatment—prophylactic, curative, paliative—obviously demands a proper knowledge of the causes and the processes of disease. It is imperative, for the judicious application of therapeutic measures, that one be able to discriminate normal from abnormal effects, as well as to appreciate those induced through the intervention of art. It may at times be helpful to aid the natural processes, not less than to check, or to divert them as occasion requires. The last two decades have witnessed a wonderful transformation in our conceptions of pathologic processes, and it will scarcely be contended that we have yet wholly emerged from the obscurity that naturally attends the evolution of a new phase of knowledge. The progress made in this department of medicine has in turn not been without a profound influence on what after all is the ultimate function of the true physician—the preservation of health, the prevention and the cure of disease, and the relief of suffering.

In a philosophic essay, delivered as the annual address before the Medical and Chirurgical Faculty of Maryland in 1896, Dr. S. Solis-Cohen[1] forcefully pointed out that health and disease are not entities or forces, but states of the organism. Health, he defined, as the condition in which the adjustment of internal relations to external relations is most readily maintained. Disturbance of internal relations constitutes disease, and this may result from failure of internal adjustments, from failure to react properly to changes in external relations, or from failure in the process of reaction and readjustment. Schleich describes disease as "a form of the struggle for existence against those injurious influences to which man is not yet adapted," while, according to Hueppe, disease may be looked upon as an endless chain, from which, if any link be missing, the closing of the chain is impossible, and disease can not occur. Cohen further maintains that disease and recovery are alike vital processes, sometimes one continuous process, in which the organism itself is the most active agent. Neither the agents provocative of disease nor the agents used in treatment impart to the organism new qualities, or introduce into its operations new powers. They may modify that which is habitual, or they may evoke that which is latent. The power of the human body to return to health comes from within, and not from without, as a natural endowment, and not as a gift of art.

1. Therapeutic Gazette, Sept. 15, 1896.

In a thoughtful paper read recently before the Practitioners' Society of New York, Dr. T. Mitchell Prudden[2] points out that the practitioner, after all, is ever a pathologist, his clinical observations being really studies in pathologic physiology, At an earlier period the most distinctive function of the physician-pathologist was the making of autopsies and the naming of tumors. Later, as the work of the pathologist became more thoroughly specialized, his most obvious aim was to discover some new lesion, or to give greater precision to the morphology of an old one; to gather statistics; to exploit organs of exaggerated size; and in general to celebrate the monstrous and the strange. Description and classification became the business of the hour. As time went on, the cell was no longer looked upon as a mass of living matter of simple chemical composition, but as a most complex mechanism with varied structural features, while the nucleus contained the special structures closely involved in reproduction and heredity and the processes of cell-nutrition.

In the evolution of our conceptions of the causes and nature of the infectious diseases it has become clear that disease is a process resulting from the action of the living body-cells, on the one hand, and specific inciting factors on the other. Disease and health are not things, but processes, essentially transformations of energy, differing in accordance with the differences in the conditions under which the forces are brought into play. The normal processes represent the results of the conditions under which the cells have been slowly evolved, and at the time placed; while the abnormal processes involve no new forces, but represent a modification by new conditions of the manifestations of energy of the normal state. The resultant lesions, however, do not constitute the disease. The cause of physiologic performances is the potential energy, or capacity for work inherent in the organism, and the true causes of disease are the same dynamic conditions acting under modified circumstances. The manifestations of the infectious diseases are expressions of processes of the body-cells, and not of the invading micro-organisms, which afford only one of the necessary conditions.

With regard to immunity and tolerance, and health and disease, Prudden points out that the life of the cells of the body, like the life of microbes, is a continuous adjustment between the properties of the organism and those of its environment, that the nice balance of health may be swayed by innumerable agencies from within the body and from without, and that the body-cells, as well as the bacteria, are organisms capable of considerable variation, in both form and function, when the conditions of their existence change. Natural or acquired cell-tolerance to poisons may be, and often is, a matter of cell-education, although it can not be denied that there is such a thing as specific immunity. Inflammation, as suggested by Adami, may be looked on as a series of

2. Medical Record, March 10, 1900, p. 397.

changes constituting the local manifestations of the attempt at repair of injury, while the solution of the etiology of the new-growths must be deferred until we know more of cytology in general.

THE ATAXIC VARIETY OF ALCOHOLIC MULTIPLE NEURITIS—SO-CALLED PERIPHERAL NEUROTABES.

The recognition of multiple neuritis as a distinct morbid entity dates back only twenty years, when the clinical and anatomic characters of the disorder were first fully pointed out by Leyden. Previously the symptoms had been attributed to lesions of the spinal cord; but in the small number of cases in which post-mortem examination could be made these alterations were not found. It has since been learned that polyneuritis may result from traumatic influences, in the course of infectious diseases, and from the action of various poisons. Exposure to cold acts probably as a contributory factor, merely lowering vitality and thus favoring the invasion of micro-organisms.

Chronic alcoholism is probably the most important etiologic factor, and under such circumstances the disorder has been observed to appear in three forms, in which motor, sensory and ataxic symptoms have respectively predominated. The motor, or paralytic, or amyotrophic variety is by far the most common; the ataxic is much less so; and the sensory variety is quite rare. In the ataxic cases the inco-ordination may be present in the upper or the lower, or in all four extremities; and the motor and sensory symptoms are wholly subordinate. The disorder often develops with violence, in the course of several weeks, in a person previously well, when static and motor ataxia will be found to be present, with abolition of the knee-jerks, while the reflex activity of the pupils is preserved. Other symptoms of tabes dorsalis have also been observed, as, for instance, a girdle-sensation, vesical disturbance, amblyopia, diplopia. Also alterations in the electric reactions of the muscles and nerves: enfeebled response to the faradic current, or complete or partial degenerative reaction, have been noted. Sensory changes are slight or wanting, and when present affect especially the localizing sense. Irritative phenomena, in the form of spasm, may also attend polyneuritis.

An interesting case illustrating many of the foregoing points is recorded by Hőnig.[1] The patient was a butcher, 55 years old, without neuropathic predisposition, but with a history of syphilis and alcoholic excess, in whom, in the course of four weeks, weakness appeared in the lower extremities, then extending to the upper extremities, with various paresthesiæ, and painful spasms in the muscles of the fingers. The most conspicuous symptom was ataxia, which appeared on standing and walking, and was marked on spontaneous movement of the upper and lower extremities. There was scarcely any sensory disturbance, and this involved only the power of localization. There was, however, marked atrophy, especially of the thenar muscles, with partial reaction of degeneration. The plantar reflexes and the knee-jerks were abolished, but the pupilary and the remaining reflexes were preserved. The functions of the rectum and the bladder were unaffected. The use of alcohol was strictly interdicted, and the patient was treated with daily baths at a temperature of 82.4 F., faradization, and strychnin, and marked improvement progressively took place. The ataxia disappeared; the absent reflexes returned; sensibility and the electric reactions became normal; and almost all of the previous symptoms subsided, only slight stiffness without pain persisting in some of the fingers of one hand, but even these eventually disappeared.

In an analytic consideration of this case and of the related literature, Hőnig points out that in a not inconsiderable number of cases of alcoholic multiple neuritis, changes of varying degree and extent have been found in the spinal cord and in the brain, in addition to those in the peripheral nerves. In view of this fact, and of the further fact that in some cases spinal and cerebral symptoms are present, such as the muscular spasm in the present case, and psychic disturbances and ataxia, the conclusion is expressed that neurotabes can no longer be considered a disease purely of the peripheral nerves, but, as the evidence shows, may also involve the spinal cord, and probably also the cerebrum, and particularly its cortical structure.

1. Deutsches Archiv f. Klin. Med., Bd. lxvii, H. 1 u 2, p. 163.

THE SAN FRANCISCO PLAGUE SITUATION.

Now that some of the San Francisco papers are demanding that an example, so to speak, be made of Dr. Kinyoun for the part he took in regard to the plague in that city, it may be well to notice some of the facts in the case. From March 6, the date of the first case identified until quite recently, the weight of medical testimony has been in favor of the existence of sporadic cases of plague in San Francisco, the chief seaport gate to the Orient on the Pacific coast. There is nothing remarkable in the fact that the diseae should appear there, for the city has been in constant danger from China and Japan, and there is not much more reason to suppose it would escape than Honolulu or Manila, which were infected from these sources. San Francisco contains, moreover, a large Oriental population, living in most unsanitary conditions and affording an excellent bed for the pestilence when it came. The San Francisco health officials felt their responsibility and acted accordingly, and the abuse they have received from mercenary commercialism is the strongest evidence that can be afforded that they attempted to do their duty. The cleansing and quarantining of the Chinese quarter was of course offensive to the Chinese, and the reputation of being a plague-infectd city was disastrous to the business interests, hence the attacks upon the health officials in the newspapers, which have assumed and in-

sisted for business reasons, that there has been no plague whatever in the city. Finally legal proceedings were brought against the health board and quarantine officers at the instance of the Chinese consul and the Six Companies that control the Chinese, and the quarantine of Chinatown was abolished by a judge who is said to have expressed his personal opinion with his judicial decision that no plague had ever existed. The mercantile interests called in to their aid the politicians and the governor of the state, who insisted that the medical authorities were all wrong and that plague did not exist and had not existed. Finally Dr. Kinyoun was arraigned for contempt of court, though this has come to nothing. A New York physician was sent by a syndicate of newspapers to investigate the matter, and while he did not condemn the health officers, he has certainly been unlucky in the published interviews and statements credited to him by the local press. Some local physicians have also committed themselves strongly against the health board and the United States medical officers in a way that appears to us to be most unfortunate, considering all the facts. If the health officers had slighted their duty and the disease had obtained a foothold through their neglect, no condemnation would seem too severe to those who are now blaming them for what they did. If they have failed to do enough, on account of the embarrassments under which they worked, the penalty will be upon their detractors, who will then recognize their error and see that newspaper dicta, judicial opinions or gubernatorial utterances have no more effect on a pestilence than Mrs. Partington's broom on the flood. On the other hand, if the energetic measures they instituted have been sufficient to stamp out the disease, they deserve public gratitude—which they will not receive—the appreciation of their efforts will depend upon their failure.

The situation is not a satisfactory one, but it is the best that can be expected under present circumstances, and they will at any event have the reward of a clear conscience in the matter. It is far from certain that their vindication will not come, the possibilities are all still ahead and the future may show a worse condition of affairs than has yet existed. The matter is one that interests the whole country; if plague gains a foothold in a Pacific port, the danger is one common to us all, and it is not to our advantage to be supine and allow Chinese companies and trading interests to let loose a pestilence upon us. It would not be surprising to those who know the natural history of the disease if it should suddenly break out again with great virulence. While it is hoped that events will prove that there is no cause for further alarm, still it might be well, even from a financial point of view, to remember that the time has not yet arrived for the rendering of the final verdict. The experience of other cities has been that sporadic plague one year has often been the precursor of an epidemic the year following. We trust this will not be the case in San Francisco.

In this connection we call attention to the report by Dr. Montgomery, which appears elsewhere in this issue, in which he reviews the facts in the case.

THE ALCOHOL QUESTION.

Professor Hall's paper in this issue is a contribution to a subject that has at present a special adventitious importance. The food value of alcohol is insignificant at best, if it can be assumed to exist, but recent utterances on the subject have been so utilized by interested parties, far beyond any desire of their authors, that corrective articles like that of Dr. Hall and that of Drs. Woodbury and Egbert in a former issue of THE JOURNAL are timely and valuable. It is not desirable that any truth should be misrepresented or suppressed, but a suggestion of caution as to statements that can be possibly perverted or distorted, such as those that can be construed to favor alcoholic indulgence, will never be much out of place. The experience of some who have been unguarded in this respect can hardly be considered desirable.

TUBERCLE BACILLI IN THE BREAST MILK OF A TUBERCULAR WOMAN.

We know that in the bovine species tubercle bacilli may appear in the milk of tuberculous females, even though there is no tuberculosis of the udder. The literature does not contain any report of the presence of tubercle bacilli in the milk of nursing mothers having been demonstrated by animal experiments previous to the case recently described by Roger and Garnir.[1] The woman was 34 years old and died from advanced pulmonary tuberculosis, with miliary nodules in other organs, two weeks after giving birth to a child, which nursed its mother's breasts for a few days, dying from generalized tuberculosis when six weeks old. Subcutaneous injection of a guinea-pig with 4 c.c. of the breast-milk caused the death of the animal after five weeks; here was a typical general inoculation tuberculosis. Clinically there was no evidence of tuberculous infection of the mammary glands of the mother. Anatomically this point does not seem to have been investigated. Further observations are consequently necessary before it may be stated positively that bacilli may pass into the milk without local tuberculous lesions of the breasts. This case points in this direction, and the inference is supported by the positive demonstration of bacilli in cow's milk without disease of the udder.

THE ANNUAL CASUALTY DAY.

The Fourth of July has passed with its usual record of casualties and it becomes necessary to say our annual word in regard to them. There is a phase of the popular idiocy of the day that has not received the attention it deserves, yet it is a psychologic factor of great influence in the often unfortunate outcomes. It is not mere noise, that the average boy or hobbledehoy enjoys; it is the zest of risk and the notion that there is something manly in playing with gunpowder and firearms on this day of license. If it were not for this, half the interest would be gone—we can testify to this, since, as the saying goes,

1. Compt. rend. de la soc. de biol., 1900, p. 175.

we have been there ourselves. The younger the child, the easier is this gratified, the firecracker burns on the fingers and the holes in the clothes are shown with pride. With the older child the gas-pipe cannon and the giant cracker get in their work, or the pistol or old musket finds its victim. There is hardly an average citizen who has not had personal knowledge or experience of some unreported minor casualty of the Fourth and there is no one of ripened years and judgment who does not deprecate the costly and foolish performances that he probably enjoyed in his immaturity. As medical men we have double reason to appreciate the idiocy of the performance, and would hardly be doing our duty did we neglect the occasion to condemn it. The man who will invent and popularize a more rational way of celebrating our national holiday will deserve to rank with those who founded it, as the savior of a very large contingent of his countrymen.

HEMORRHAGIC NEPHRITIS THE EXPRESSION OF GENERAL INFECTION.

Instructive cases have been described recently by Holst[1] of acute hemorrhagic nephritis as the principal manifestation of a general microbic infection of the blood. In one case the disease lasted nearly eight months and was in reality a streptococcus bacteriemia—streptococci being found in the blood and elsewhere—but appeared clinically as a hemorrhagic nephritis of a febrile type. In the second case, the renal symptoms were associated with evidences of acute endocarditis. Staphylococcus albus was grown from the blood during life, and after death from the excrescences upon the mitral valve. A third case was observed for a time. Here there existed a fully-compensated heart lesion of some duration, but which rather suddenly became complicated with symptoms of acute nephritis. While under observation, the urine, secured under aseptic conditions, contained micrococcal masses that proved to be staphylococcus albus in pure culture. Holst emphasizes especially these two points: 1. Acute hemorrhagic nephrit represents a bacteriemia—latent pyemia or septicopyemia—more frequently than is commonly believed. 2. Transitory hemorrhagic exacerbations occurring in the course of chronic nephritis may be caused by an infection of the blood, just as is frequently the case in recrudescence of endocardial inflammations, the recurring hemorrhagic nephritis being similar pathogenically to recurring endocarditis.

URETERAL IMPLANTATION.

Many pathologic conditions offer indications for implantation of the ureters into the rectum or colon. As examples may be mentioned uretero-vaginal fistula; stricture and obliteration of the ureters under conditions preventing reinsertion of the ureter into the bladder; large vesico-vaginal fistulæ; tuberculosis and carcinoma of the bladder; and atrophy of the bladder. In these and other conditions, new routes for the discharge of the urine are desirable. Turning the urine into the rectum is not altogether against all physiologic precedent. In birds, for instance, there is a common route of exit for both urine and feces, and cases have been recorded in which the ureters emptied into the rectum in human beings, by virtue of the persistence of an early embryonic condition. Richardson's patient lived seventeen years, and without urinary incontinence. We have also learned that the rectum may acquire tolerance of the presence of urine. It is the occurrence of ascending infection of the urinary tract that constitutes the most serious obstacle to uretero-colostomy. The only method that, so far, successfully overcomes this danger is Maydl's, whereby the part of the urinary bladder containing the ureteral orifices is properly fixed in the intestinal wall. The preservation of the normal ureteral openings is the reason why Maydl's method is superior to all other procedures yet devised. In all other operations, even when the ureters are inserted obliquely and the orifices guarded by an ingeniously constructed valve of rectal mucous membrane, there is, sooner or later, retraction, atrophy of the valve, and infection. Inasmuch as Maydl's method of ureteral transplantation is not always applicable, a method of creating an orifice in uretero-colostomy that does not retract is a desideratum, which surgical ingenuity has yet to furnish.

1. Norsk. Magaz. f. Lagevid., 1899.

THE ETIOLOGY OF PERTUSSIS AND ITS SERUM TREATMENT.

In the recently issued and splendid volume, entitled "Contributions from the William Pepper Laboratory of Clinical Medicine," occurs an article by Joseph Walsh on the etiology of whooping-cough. He notes that the number of organisms discovered in this disease is quite remarkable—a new organism has been found for every alternate year of the last two decades. Protozoa, cocci, and bacilli have been described. Two bacilli have received especial notice: The one described by Afanassiev, whose finding was confirmed by Koplik of New York, and the bacillus of Czaplewski-Hensel. Walsh studied twelve cases and made one autopsy, isolating the Czaplewski-Hensel bacillus from the sputum seven times and finding the same organism in smears from the sputum of nine cases and from the trachea at the post-mortem. On carefully reviewing the characteristics of this bacillus, Walsh is forced to the belief that it is a so-called pseudo-diphtheria bacillus. It is not necessary to recount the cultural and other properties that identify the bacillus with the pseudo-diphtheria group. This identity makes it hard to prove that the bacillus is the actual cause of whooping-cough, because similar forms are often present in the healthy throat. Its presence in overwhelming numbers in so many cases of pertussis, even in the washed sputum, and on the tracheal lining after death, makes it probable, however, that it is the exciting cause of the disease. It seems that Koplik has changed his opinion to the effect that he also dealt with the Czaplewski-Hensel bacillus (Walsh). On account of the almost perfect immunity granted by an attack of whooping-cough, Walsh thought that the serum of persons who have passed through an attack might contain an antitoxin. A few injections of human serum were given patients with pertussis, and all injected showed immediate and marked improvement, with complete cessation of the whoop for two or three days, after which it returned, except in one case, the first

to be injected, in which it never returned. The results obtained seem to indicate further trials in this direction.

Medical News.

REAUMUR thermometers are no longer to be officially tested in Germany as heretofore. The Centigrade is henceforth the only standard thermometer for the Empire.

VICTIMS of alcoholism in the Russian Army are to be treated in a special hospital, the funds for the erection of which have been contributed by the Russian government.

MEDICAL PROMENADES at the Exposition, to point out and describe articles of special interest to visiting physicians, have been organized by Drs. Helm and Marcel Baudouin.

AN INSTITUTE for medical diagnosis has been inaugurated in Berlin, in which various specialists, such as Klemperer, Posner, Eulenberg, etc., hold clinics of an hour each during the day.

ALL SURGEONS, assistant-surgeons, acting assistant-surgeons or contract surgeons, and hospital stewards, who served in the army or navy of the late Confederate States, are requested to send their post-office addresses to Deering J. Roberts, M.D., Secretary Surgeons' Association, C. S. A., Nashville, Tenn.

THE MEDICAL CLUB of Paris offers temporary membership to visiting physicians at its handsome quarters, 5 Avenue de l'Opéra, with all the privileges of club life, large dining-halls and dinner at 7 p. m., with concerts and dramatic entertainments from time to time. The fee for temporary membership is ten francs, or $2.

THE DUCHY of Meiningen in Germany has extended the system of medical school inspection to the rural as well as to the city schools. After the current year, only the children entering school for the first time will be examined, with further examination when they leave school or at the request of teachers. The service is free and will be extended to private schools on demand. Much good is anticipated from the advice to be given to boys leaving school as to their physical fitness for certain trades.

ON THE initiative of the medical profession in the Bordeaux district, France, a statue has recently been erected to the memory of Dr. Jean Hameau (1779-1851) in the remote village where he lived and died. In a pamphlet entitled the "Study of Viruses," which lay unnoticed in the pigeon-holes at the Académie de Médecine for seven years, and was then only vaguely comprehended, Hameau outlined the theory of parasitic infectious diseases which was confirmed later and rendered intelligible by Pasteur's discoveries.

THE NEW German law for the prevention of contagious diseases aims at the compulsory isolation of every person affected, or even suspected of being affected with leprosy, cholera, petechial typhus, yellow fever, plague and smallpox. The physician is required under penalty to notify the authorities. When the sanitary officials are prevented from attending to the duties imposed by this law civilian physicians are compelled to act in their stead. Severe penalties are imposed for knowingly passing over to a third party any articles that have been used by or for a patient affected with any of the above diseases. An indemnity is paid by the government for articles destroyed in disinfecting. The law does not conflict with the regulations now in vogue for other transmissible diseases.

SANITARY TELEPHONING.—Telephone booths in Vienna are furnished with napkins, and those who telephone are requested to wipe the mouthpiece of the transmitter. If the napkins are changed often enough and the telephone users are careful to observe the instructions; the mouthpiece should be kept in fair sanitary condition.

TRICHINAE IN GERMAN PORK.—A Nuremburg paper, commenting on the fact that eleven out of thirteen trichinous pigs, found in the city market during the last year, were all of Prussian lineage, concludes that the policy of excluding meat from the United States is foolish and that careful inspection is the only safeguard.

THE HEALTH OF MANILA.—Major Edie's recent report shows that the health of Manila compares favorably with that of other oriental cities. The death-rate from October to June was 28 per thousand. The total number of deaths was 8535, of which 180 were caused by the plague, and 1073 by internal diseases. This report demonstrates that the sanitary condition has materially improved.

ASEPSIS IN CHURCHES.—The Roman Catholic bishops in Italy are instructing their clergy to sweep and disinfect the floors of churches with sublimate at least once a week, and after each crowded service. The receptacles for holy water and other articles are to be frequently cleaned with boiling water or sublimate. The *Semaine Médicale* urges the generalization of these measures as a great benefit to the health of the public, if systematically applied.

ANOTHER CASE OF PLAGUE.

(Special Telegram to The Journal.)

SAN FRANCISCO, CALIFORNIA, July 10.—A Chinese laborer, aged 40, was sent to the City and County Hospital, July 4. He had been perfectly well until one week before. He felt tired and depressed; had fever and drank large quantities of water. He was confined to his bed for two days and was then carried to the hospital his temperature was 104 F.; pulse, 120; respiration 36. The abdomen was much distended and tender on pressure, and the spleen greatly enlarged. The bowel passages were blood-stained. A large bubo, the size of the fist, was seen in the left inguinal region, but he had no urethral discharge. The urine gave no diazo reaction. After his entrance to the hospital, dyspnea developed and he lay in a semi-conscious condition, and was delirious until his death, which occurred July 6, at 6:30 a. m. On autopsy the mucous membrane of the intestines was found to be thinner than normal; the solitary follicles normal; there was hyperemia of the heart, swelling of the axillary and inguinal glands, and infectious swelling of the spleen. Bloody fluid was found in the pericardium. A guinea-pig that was inoculated with fluid aspirated from the bubo on the day before the patient's death died sixty hours after the inoculation. The autopsy revealed widespread edema of the subcutaneous tissue, with coagulation-necrosis at the site of the inoculation. The pleural and peritoneal cavities contained turbid bloody fluid. The blood in the heart was fluid and the heart muscle dark and friable. The spleen was three times its normal size and contained yellowish-white spots, which were colonies of the bacillus

pestis. The plague bacillus was found in the blood, in the inoculation wound, and in the spleen. Cultures made from the fluid aspirated from the patient before death showed the plague bacillus. This is the first case of bubonic plague in San Francisco in which the diagnosis was made before death. Many animals were inoculated from the fluid aspirated from the bubo, and interesting results from these inoculations may be expected.

[This telegram was received after the editorial on this subject had gone to press. ED.]

PENNSYLVANIA.

DR. F. E. JENKINS, of Carbondale, has gone to San Francisco, from which place he will sail for Manila.

DR. HENRY ARMSTRONG, of Sharon, who has for some time been attending a case of smallpox near that place, is said to have contracted the disease, and the Board of Health has placed guards around his residence.

BOVINE TUBERCULOSIS.

Dr. Leonard Pearson, state veterinarian, announces that the following sums have been paid during the past year for the destruction of tuberculous cattle: Bradford County, $1242.50; Bucks County, $2663.50; Chester County, $4775.50; Dauphin County, 737; Erie County, $1412; Lancaster County, $1802.50; Montgomery County, $3737.50; Washington County, $1215. The total amount paid for this purpose over the whole state was $33,997.

COMPULSORY VACCINATION IN PENNSYLVANIA.

Judges Pennypacker and Sulzberger, in Common Pleas Court No. 2, during the first week of June, after hearing the argument on the petition of Charles J. Field for a writ of peremptory mandamus directed against Martha L. Robinson, principal of the Keystone Public School of Philadelphia, requiring her to admit to the school the daughter of the petitioner, Victoria Field, notwithstanding she has never been vaccinated, stated that the question at issue was whether after the legislature believed in the efficacy of vaccination, a citizen had the right to appeal to the court to say that such was not the fact. Counsel for the defendant stated that he had collected every decision made in every state regarding this question, and that the practice of vaccination had no justification in science; that it did not mitigate smallpox, but often inflicted worse diseases, and for that reason was an abuse of the police power of the State to enforce this law. Attorney for the defendant attempted to prove that vaccination was without value, and cited as his authority the name of a physician in attendance at a municipal hospital (see JOURNAL of June 23, 1900—Philadelphia Letter), but which was contradicted by the physician named. The judges held the matter under advisement. On July 3 they overruled the demurrer and entered judgment for the defendant, Martha L. Robinson, principal of the Keystone School, who acted under the instructions of the law as outlined in the act of Assembly of June 18, 1895, thus making legal the enforcement of the compulsory vaccination law in the State of Pennsylvania. A similar opinion was given by the Supreme Court in 1894, on an appeal from a decision of Judge Metzger, of Lycoming County, who denied a writ of mandamus on the same grounds. In the latter case cost of the suit was imposed upon the appellant.

Philadelphia.

DR. MELVIN M. FRANKLIN has been appointed surgeon on the staff of St. Joseph's Hospital to succeed Dr. John S. Miller, resigned.

DR. JACOB M. DACOSTA tendered a complimentary dinner to a number of invited guests at his home near Villanova, June 29.

DR. JUDSON DALAND leaves for Europe July 15. He will attend the meeting of the British Medical Association and the International Medical Congress at Paris.

DR. JOSEPH LEIDY has been apppointed a member of the Jury on Hygiene from the United States, at the International Congress on Hygiene, which meets in Paris, August 4.

THE PUBLIC baths of the city have been well patronized during the past week, 416,220 persons having availed themselves of the opportunity thus afforded.

DURING THE past week a decision has been handed down in the case of Robert Nebinger, who died several years ago, in which the court allows the gift of $3000, made to St. Francis Hospital.

THREE PERSONS charged with violating the pure food law were arraigned in court during the past week, and held in bail of $400 each. Three other defendants failed to appear and steps will be taken to compel them to be present.

CONSIDERABLE excitement exists in the neighborhood of "Plaster Row" over the discovery of two cases of smallpox among the colored people. The patients have been taken to the Municipal Hospital, and about 200 of those exposed have been placed in quarantine, while eight policemen have been detailed to see that the quarantine is enforced.

MORTALITY STATISTICS.

The number of deaths occurring in this city during the past week was 544, an increase of 47 over that of last week, and an increase of 109 over the corresponding period of last year. The principal causes of death were: apoplexy, 22; cancer, 9; cholera infantum, 73; tuberculosis, 35; inflammation of the brain, 29; pneumonia, 27; marasmus, 30.

STERILIZED MILK AND ICE SOCIETY.

Through the work of this society an incalculable amount of good has been done during the past week for the relief of the children of the poor. This is the seventh year of the work of this society, and four depots have been established in the city for the distribution of these necessities. At all of these places the milk is carefully sterilized and sold at absolute cost to those who need it. A six-ounce bottle of milk together with a small piece of ice to keep it cool is usually the amount allotted to each applicant.

FOURTH OF JULY CASUALTIES.

Although the mayor had issued strict injunctions against the useless firing of toy pistols and other devices for making a noise during the celebration of the Fourth of July, that event has again been attended with several hundred injuries. As usual, lacerated wounds of the hands and face, injuries to the eye, and burns of the face and hands were most frequent. One colored boy fired into a collection of torpedoes, causing a wreck of the store and the death of eight people. The city is making an inquiry into this accident, as the storing of such explosives is forbidden by law. Friends of the Italian who owned the store at which the explosion occurred are said to have threatened death to any who would report the facts in the case.

NEW YORK.

DR. R. J. WILDING, of Malone, sailed last week for Europe.

DR. ALBERT SNELL, of Rochester, who has been in London for a year, has returned.

DR. F. HOLLET SPENCER, of Binghamton, has resigned the position as assistant physician and surgeon at the Robert Parker Hospital.

DR. ROBERT B. LAMB, of the staff at the Matteawan State Hospital, has been appointed medical superintendent of the Dannemora Hospital for the Insane.

THE NEW hospital established in Mineola, L. I., by the Nassau Hospital Association, was opened June 30. Addresses were made by Dr. James, of Manhattan, and Supt. C. Irving Fisher, of the Presbyterian Hospital.

AT A meeting of the Medical Board of Thrall Hospital, Middletown, Dr. W. C. Douglass was added to the consulting medical board, Drs. D. B. Hardenbergh and M. A. Stivers were elected to fill vacancies in the medical board, and Dr. W. I. Purdy was transferred from the medical to the surgical staff.

FINE FOR ILLEGAL PRACTICING.

The New York County Medical Association has obtained a legal decision authorizing it to receive the fines inflicted for illegal practice of medicine. The law provides that where the complainant in such cases is a state medical society or a county medical society entitled to representation in a state society, such fines shall be paid to the complainant. It was claimed by the city authorities that the act referred only to

the county medical society in affiliation with the state medical society, but the plea was overruled. Justice McAdam, in his decision, said: "The construction of the statute contended for by the defendant would not effectively carry out the provisions of the act in regard to prosecuting offenders, for this is more surely accomplished by the liberal construction now given to it. The plaintiff discovered the offender, secured his conviction; the fine represents the fruit of its efforts, and there is no reason why it should not have the ransom."

A NEW HOSPITAL FOR CHILDREN.

At a meeting of the New York State Hospital for the Care of Crippled and Deformed Children, held at the residence of Bishop Potter, the president, the committee on site reported that it had secured the lease of the residence of Dr. Angell, on the Hudson River, in Tarrytown, Westchester county, N. Y. The changes necessary to equip the building for hospital use will be made, and the hospital will be opened early in the autumn. The following were elected members of the consulting medical board: Drs. Francis Delafield, Robert F. Weir, W. Gilman Thompson, Joseph D. Bryant, Lewis A. Stimson, A. Alexander Smith, Reginald H. Sayre, of New York; Roswell Park, of Buffalo, and L. A. Weigel, of Rochester.

New York City.

DR. EDWARD J. ILL has been appointed medical director of St. Michael's Hospital, to succeed Dr. Wm. Pierson, deceased.

AN APPROPRIATION of $20,000 has been made to the State Board of Health for the purpose of fumigating the Chinese quarter and taking other precautions against the plague.

AT A MEETING of the corps of teachers of the New York School of Clinical Medicine, held at the Academy of Medicine, June 21, it was decided to wind up the affairs of the school and close it permanently. This action was taken in consequence of continuous interference of the lay board of trustees in its affairs.

ILLINOIS.

DR. MARGARET SHULTS has been appointed a member of the staff of St. John's Hospital, Springfield, to serve as pathologist and have charge of the children's department.

"DIVINE HEALER" Schweinfurth has again come to the surface after a long submergence. It is now announced that his colony is scattered, that he has become a "Christian Scientist," and furthermore, that he has gone into business as a life-insurance solicitor. Evidently the divine healing business has not been found to be a permanent bonanza.

Chicago.

DR. NICHOLAS SENN has gone to Southwestern Texas on a hunting trip.

DR. FENTON B. TURCK sails for Europe on the *Belgravia*, July 17.

AMONG those who sailed on the *Potsdam*, July 7, were Drs. E. T. Dickerman and W. H. Wilder.

DR. JAMES NEVINS HYDE has gone to Europe to attend the International Dermatological Congress.

DR. BOERNE BETTMAN, the oculist, who went abroad for his health six years ago, has returned to Chicago, but is not yet able to resume practice.

A BUILDING at Calumet Heights, that will be immediately converted into a hospital with accommodation for about twenty-five patients, has been purchased by the South Chicago Hospital Association.

THE NUMBER of blind children in Chicago, as found in the school census statistics, is 297; 160 boys and 137 girls. The needs of these children will be met by one school on each side of the city. These schools will be opened in September.

HEALTH DEPARTMENT.

Only one case of smallpox has been reported to the department during the past week. The patient, a colored man, 37 years of age, who has never been vaccinated, had been working with a gang of street pavers in Indianapolis. He was taken ill on July 2; three days later the eruption appeared, and on the next day he took the train for Chicago. He did not call a physician until July 9. The case was at once recognized as smallpox and the patient sent to the Isolation Hospital. The case is mild, but many have been exposed. The secretary of the State Board of Health of Indiana has been notified of the facts, that he may trace the source of the infection. Only eight deaths from sunstroke were reported for the week ending July 7, and the mortality from all causes was only slightly increased by the heat—thirty more than the preceding week and four more than the corresponding week last year. The total number of cases of contagious diseases reported was 96: scarlet fever, 43; diphtheria, 49; measles, 6. Fifty-two disinfections were made, and 13 funerals inspected. Of the 369 samples of milk and cream analyzed, 8.92 per cent. were found below grade.

OHIO.

DR. FANNIE C. HUTCHINS, for two years assistant physician at the Cleveland State Hospital for the Insane, has resigned.

DR. BYRON STANTON, professor of diseases of women and children in the Miami Medical College, has resigned, and his chair has been divided, Dr. E. W. Mitchell taking pediatrics, and Dr. R. B. Hall, gynecology. Dr. Mitchell's former chair materia medica and therapeutics, will be filled by Dr. Julius Eichberg.

BY THE will of the late Dr. James T. Whittaker, the Medical College of Ohio will become possessed of his library of nearly 1500 volumes. Among the especially valuable antique books in the collection are Celsus Medicinæ (1467), Opera Omnia Anatomica and Physiologica (1687), De Visonum Organis Generationia Inservientibus (1678), Elementa Physiologiae Corpus Humani (1777).

INDIANA.

DR. B. C. STEVENS, of Logansport, has gone to Europe for the summer.

AT THE graduating exercises of the Elizabeth Hospital training school for nurses, Lafayette, Dr. George Beasley, the president of the faculty, presented the diplomas.

MARYLAND.

Baltimore.

DR. JOHN G. JOY sailed for Europe, July 6.

DR. W. B. WOLF has returned after a year's absence in Europe.

DR. JOSE L. HIRSH has gone to Wood's Holl, Mass., to spend some weeks in the laboratory there.

TWO CASES of smallpox were sent to the Quarantine Hospital, July 5 and 6, and thirteen colored men at Sparrow's Point, who had worked with the smallpox patients, were sent to the detention camp.

FOR THE week ending June 30, there were 251 deaths, of which 127 were of children under 5 years of age. The death-rate was 24.12 per thousand, showing the usual proportion of about 1 white to 2 colored. From cholera infantum 71 died; from consumption, 23; from pneumonia, 13, and from diphtheria, 2.

BADGES FOR HEALTH OFFICERS.

The mayor has approved the ordinance requiring health officers of the city to wear badges as evidence of their official authority. They are to be of circular form with a red cross in the center, and with the title of the offlcial at the head of the circle, and the words "B. C. Health Department" at the bottom. A fine of from $5 to $25 is provided for wearing the badge without authority.

CALIFORNIA.

DR. F. M. CASAL has been elected health officer of Santa Barbara, to succeed Dr. J. M. McNulty, deceased.

AT THE graduating exercises of the California Hospital Training School for Nurses, held June 27, at Los Angeles, Dr. F. T. Bicknell made an address and presented the diplomas.

SAN FRANCISCO MATERNITY.

The maternity department of the San Francisco Lying-in Hospital and Foundling Asylum was opened June 29. The attending physicians are Lucia M. Lane and Virginia W. Smiley; the consultants, Henry Gibbons, Jr., C. Van Hoffman, William Watt Kerr and D. W. Montgomery.

INTERNES FOR CITY AND COUNTY HOSPITAL.

The State Board of Health adopted a resolution, at the meeting of June 26, providing for the selection of thirteen internes

for the City and County Hospital; five of these will be from the University of California Medical College and four from the College of Physicians and Surgeons.

MINNESOTA.

AT THE recent examination held by the State Medical Board, licenses were granted to fifty-four candidates.

THE TENTH annual commencement of the training school for nurses at St. Peter State Hospital was held June 29. A report of this year's work was made by Dr. Darling. Dr. Arthur Sweeney, St. Paul, delivered the address and Dr. H. A. Tomlinson presented the diplomas.

LOUISIANA.

New Orleans.

DR. M. H. MCGUIRE has been appointed resident physician to the New Orleans Sanitarium.

DR. J. N. THOMAS has been appointed to take charge of the Louisiana Quarantine Station at the mouth of Mississippi.

DR. F. A. LARNE is among the visitors to the Paris Exposition.

THE MEDICAL department of Tulane University is adding instructors, made necessary by the four-year course. Dr. Ralph Hopkins will conduct quizzes on the lectures of Prof. S. E. Chaillé, professor of physiology, pathology and hygiene; Dr. J. Birney Guthrie will conduct quizzes on the lectures of Prof. L. F. Reynaud, professor of materia medica and therapeutics.

CONNECTICUT.

DR. ANSEL G. COOK, of Hartford, delivered the address at the commencement exercises of the Backus Hospital Training School for Nurses, at Norwich.

YALE UNIVERSITY authorities are negotiating for the purchase of a site for the new medical school, adjacent to the New Haven Hospital.

THE GRADUATING exercises of the Yale Medical School were held June 26, and degrees were conferred on a class of twenty-six. Dr. J. M. DaCosta, Philadelphia, delivered the annual address on "Questions of the Day in Medicine."

NEW JERSEY.

DR. GEORGE E. MCLAUGHLIN, of Jersey City, has gone to Europe.

THE STATE Board of Medical Examiners met in Newark, July 5. Dr. William Perry Watson, New Brunswick, was elected president; Dr. C. L. B. Godfrey, Camden, secretary; Dr. Armin Uebelaeker, Norristown, treasurer.

MONMOUTH MEMORIAL HOSPITAL.

The Monmouth Memorial Hospital at Long Branch, N. J., reports that during the past year 130 operations were performed. The surgical cases numbered 365; the number of medical cases was 176; the cash disbursed was $21,696.84, leaving a balance of $1,964.41 in hand; total number of patients admitted was 497; 17 cases were treated for appendicitis; of the 31 deaths, 2 died in from two to twenty-four hours after admission; number of patients cured was 320, improved 35, unimproved 5.

WEST VIRGINIA.

THE REGENTS of the state university have arranged for a medical department, and the following have been appointed members of the faculty: James W. Hartigan, professor of anatomy; A. E. Thayer, professor of histology, bacteriology and toxicology; A. R. Whitehill, professor of chemistry and toxicology; Otto Folin, professor of physiological chemistry; J. B. Johnston, professor of zoölogy; S. S. Wade professor of physiology; L. S. Brook, professor of materia medica and therapeutics.

CANADA.

DR. G. S. RYERSON, Canadian Red Cross Commissioner in South Africa, sailed from Cape Town, July 4, for England, on his way back to Canada.

AT THE recent centennial celebration of the University of New Brunswick, at Frederickton, the degree of LL.D. was conferred on Drs. William Bayard and Boyle Travers of St. John.

DR. MEMBRY, late house surgeon for the Home for Incurables, Toronto, who went to Accra, West Africa, as Assistant British Commissioner, has been promoted to the position of Commissioner. He is about to start on an extended trip into the interior.

ACCORDING to the prohibitory law of Manitoba, physicians will not be limited in the amount of liquor in prescriptions; druggists will not be charged any license; and veterinary surgeons and dentists will be allowed to procure and administer liquor in cases required by their respective professions. Provision is also made for hospitals, such as those at Brandon and Morden, which have no resident physicians.

THE HOSPITALS OF ONTARIO.

In the thirtieth annual report of the hospitals and charities of this province, which is for the hospital year of 1899, the detailed statements show to how great an extent charity is dispensed in Ontario. There are now fifty hospitals in operation in this province, and two more have been placed on the list for receiving government aid. The number of sick treated in these institutions during the past year amounted to 26,825, exclusive of the thousands known as outdoor patients. Nearly half a million dollars has been expended for the maintenance of these hospitals during the year. Of this amount the government contributed $110,000. In addition to these, there are about forty houses of refuge, thirty-one orphan asylums, four homes for incurables, three convalescent homes, eighteen county homes for the poor, and two Magadalen asylums, having an aggregate of 10.000 inmates, with a yearly expenditure for maintenance of $300.000, of which amount the Ontario government contributes $80,000.

BUREAU OF PUBLIC HEALTH.

Last week, Dr. G. G. Roddick, M. P., brought up this subject in the Dominion Parliament. He had been looking up statistics, and found that in doing so he had to go to two or three different departments of the public service, and he thought the subject sufficiently important to be concentrated under one bureau. He would consider it far better for the country if such a department were created and placed under a responsible head, and Dr. Montizambert would make an efficient deputy minister and sanitary adviser. In addition to this, he would have the direction of the marine quarantine act; as sanitary inspector of the Indian reserves, be director-general of the leper asylums, director-general of the Dominion Service of Vital Statistics, and have under his charge the sanitary portion of the census, the protection of waterways, sanitary police, and sanitary measures in unorganized territories, the protection of public health against the invasion of tuberculosis, the arrival of consumptive immigrants, and the importation of unhealthy articles of food and undesirable freight, such as rags. The question of sanitary police was particularly important, and these could co-operate with the various provincial authorities. He said that the Dominion should now have sanitary police in British Columbia to guard against the introduction of the bubonic plague, also the Dominion had need of a bacteriologic laboratory, for at present they had to depend on the United States, England and Japan. He said that he had recently attended a medical convention in the United States, where a medical man, who read a paper on leprosy, announced that he intended to visit Ottawa and make a study of the subject in the laboratory there, and he was compelled to inform this doctor that there was no such thing in Ottawa. He commended the organization of such a bureau to the consideration of the government, and, furthermore, made a suggestion that the government should have medical men in the great ports of Europe, who should carefully examine intending immigrants, and see that the ships were suitable, and properly equipped for the sanitary care of those on board.

Montreal.

SIR WILLIAM C. MACDONALD has offered to build a modern crematory for the city at his own expense.

SIR WILLIAM HINGSTON has sailed for England, where he will be made an honorary fellow of the Royal College of Sur-

geons of England. This will be the first time this honor has been conferred on a Canadian physician.

SMALLPOX.

Scarcely had the last outbreak of smallpox been effectively suppressed, when the disease broke out again in a new quarter, and there are now six cases in the city, one of which is hopeless, the other patients are stated to be progressing favorably. One patient sent to the Royal Victoria Hospital, suffering from supposed obscure abdominal trouble, was subsequently diagnosed as smallpox, and as a result this hospital has been closed and no more patients are to be admitted until sufficient time has elapsed to warrant safe admission. Along with this new outbreak, comes a savage attack on the administration of the Montreal Civic Hospital by one of the victims of the previous outbreak, a man largely interested in mining matters, who was said to have brought the disease to Montreal from Rossland, B. C. This gentleman alleges gross negligence on the part of the health department of Montreal, which, he states, provided him with pavilion accommodation at first, of the vilest, most filthy and disgusting character; when he was afterward removed to the hospital proper, his surroundings were very little, if any, improved. He provided two nurses for his own personal care, and even then it was a very difficult matter to get the place in anything like habitable shape. These charges have excited much indignation among Montreal physicians against the board of health for the careless and ineffective administration of affairs.

PARIS LETTER.

THE BAZY-ALBARRAN DISCUSSION.

The recent meetings of the Society of Surgery have been in great part taken up with the discussion between Albarran and Bazy as to the merits or demerits of ureteral catheterization in renal tuberculosis. The war of words has been intense and, though Albarran seems to have silenced all the other men, such as Tuffier, Ricard and Bazy, it is more than likely that the subject will be taken up again at some future date. The cause of the discussion can be given in a few words: Dr. Albarran considers catheterization a relatively easy, safe and innocuous means of ascertaining the condition of both kidneys, and is in favor of removing a tuberculous kidney—when in initial stage of the disease or when the other kidney is found quite normal. Dr. Tuffier considers catheterization a difficult operation; and Dr. Bazy is opposed to the indiscriminate use of this mode of investigation; he prefers to trust to the usual methods of exploring the kidney, and considers the methylene blue test sufficient to indicate the condition of the kidney presumed to be still healthy. He, moreover, no longer advises only nephrectomy, but advocates surgical intervention when the kidney directly affects the patient by hemorrhage or by suppuration.

PROFESSIONAL SECRECY.

Professional secrecy is carried out to its extreme limits in France, and a recent occurrence shows how severe the law is in this respect. A midwife had, on her own responsibility, given damaging evidence against a woman whom she had confined. The court decided that such evidence should not be admitted, and the attorney-general had the case taken before the criminal chamber of the Court of Cassation. It was established that the court had decided rightly, and the judgment given shows that professional secrecy is no longer relative to the conditions laid down as to the responsibility of witnesses, but is absolute and without exception.

RAW MEAT IN THE TREATMENT OF CONSUMPTION.

Professor Richet has published recently an important article on the treatment of consumption by the use of raw meat. Three or four hundred dogs have been experimented on, and the results have been quite remarkable. The theory involved is quite new, as it seems to explain the action of this remedy by the antitoxic influence of meat-juice. Dr. Richet's communication has caused the publication of two articles on the same subject. Dr. Odolin Martin, of Lyons, has declared that by using dry meat-powder he has been able to observe, after two and one-half months, a most distinct change in patients suffering from consumption, and that signs of cicatrization were quite apparent after that lapse of time.

SMALLPOX IN LYONS.

Smallpox is still in evidence in Lyons, there having been 219 new cases and 47 deaths during May. This shows that the epidemic is relatively benign, compared with that in Marseilles, where 245 deaths took place during the month of December. There seems to be an antivaccination feeling in Lyons, as the health officers, on going into the poorer quarters of the city, were able to vaccinate only a small proportion of the whole population. In one large manufactory, also, only a few of the workmen would allow themselves to be vaccinated.

BACTERIOLOGY OF RHEUMATIC FEVER.

A work of some importance has just been published on this subject by Drs. Triboulet and Coyon. Three years ago Drs. Achalme and Triboulet made some researches on the bacteriology of rheumatism, and it was thought at the time that the microbes discovered were those of primary acute polyarthritis, or the usual form of rheumatic fever. More recent investigations, however, tend to show that these microbes play a secondary rôle in the creation of rheumatic fever, and that the real cause has not as yet been found. Still, it may be considered that they are the cause of the cardiac complications so often seen in this affection. This discovery might aid in determining, from the outset, what microbes exist in any given form of rheumatic fever, and thus might be a means of recognizing those forms of acute polyarthritis that are accompanied by valvular lesions. Achalme has already described an anaerobic bacterium, and certain staphylococci and streptococci have also been observed. A microbe called the "microbe of Coyon," has been found in the blood in certain cases. It is a diplococcus, and presents reactions which differentiate it clearly from staphylococci, streptococci or pneumococci. On inoculation it does not produce any special results, with one exception, where in a rabbit it caused valvular endocarditis, similar in nature and appearance to that seen in rheumatic fever. These facts are important, as they may allow the physician to determine the prognosis of the disease. It is thought that where staphylococci or streptococci exist, the complications will be very slight. On the contrary, when the microbes described by Coyon and Achalme are found, cardiac complications are much more apt to be encountered.

London Letter.

THE DUBLIN METHOD OF EXPELLING THE PLACENTA.

At the meeting of the Royal Academy of Medicine in Ireland, Dr. Henry Jellett read a paper on "The Dublin Method of Effecting Delivery of the Placenta." He remarked that in 1876 two well-known writers stated that the method of removing the placenta by external manipulation had been first introduced in Dublin, and that it was identical with the method which was introduced at a later date in Germany by Credé of Leipsic. Now all German and most British works on midwifery term this Credé's method." He describes the gradual evolution of the Dublin method from the time of Fielding Auld up to that of Sinclair and Johnston. Credé's method was brought forward prominently in 1860 at the meeting of the Association of Physicians and Naturalists at Königsberg, although it had been practiced in Dublin from time immemorial.

DEATHS FROM SUNSTROKE.

The four deaths which occurred at Aldershot from exposure to heat, among the soldiers engaged in maneuvers, have caused wide-spread indignation against the authorities. A field day was ordered and 30,000 men came on parade after breakfast, at a quarter past six. When the troops started there was exceptional heat, but about 10 o'clock great heat was felt, and "halt" was sounded at 10:30 and "cease fire" at 11:15. It was then directed that the men should march back as early as possible. A large number fell out and twenty-eight patients were received at the hospital, suffering severely from the exposure to the heat, of whom four died. The whole distance covered by the troops there was about fourteen miles. The head-dress worn was the small fatigue cap, which affords practically no protection. In the House of Commons, Mr. Wyndham stated that before this occurrence the adjutant-general was at work on a sun-

shade to be attached to the fatigue cap. The commander-in-chief has now directed that helmets shall be worn, and that those men who, in consequence of the exigencies of the war do not possess them, shall not be allowed to undergo severe exertion at a distance from the barracks. Two years ago, when the fatigue cap was worn, sixty-one cases of sunstroke occurred at maneuvers. But such is the "hide-bound" conservatism of the war office that the deaths of these unfortunate men have been necessary to teach the military authorities to provide a rational head-dress for the soldiers. A few days after the fatal maneuvers the troops were again engaged in field operations, carried out in the early morning, and the men all wore helmets. But there was no sun; the weather was cold and damp!

WORLD'S TEMPERANCE CONGRESS.

The meeting of this organization has been held recently under the presidency of Mr. W. S. Caine, M. P. The president referred to the temperance problem in India, and stated that among the 70,000 British troops there, 23,610 were total abstainers.

Dr. T. D. Crothers, Hartford, Conn., read a paper on "The Scientific Study of Inebriety in America." He stated that the first medical authority who asserted that inebriety was a disease was Dr. Rush, of Philadelphia, who did so in 1809. There are now over fifty asylums in the United States and Canada where inebriates are treated medically: the opinions of authorities showing that about one-third of the cases are restored by the treatment.

Dr. James J. Ridge followed with an interesting account of the medical abstinence movement, stating that the discovery of distillation was made in the eleventh century, and that the manufacture of spirituous liquors began then. In Great Britain, it was not until the seventeenth century that the use of spirits spread like an epidmic. At the commencement of the nineteenth century, medical abstainers could be numbered by tens, to-day they are numbered by hundreds. The British Medical Temperance Association, founded in 1876 by a few medical men, now numbers 486 doctors and 515 students.

Mr. E. Wood read a paper on "Abstinence as a Factor in Promoting Health and Longevity." He said that the experience of all British insurance societies which had special sections for total abstainers proved conclusively that abstinence conduced to longevity. Thus the United Kingdom Temperance Institution expected 8048 claims in 34 years in the temperance section, while the actual claims were only 5724, or 70 per cent. In the general section, on the same actuarial basis, the expected claims were 10,369 and the actual claims 10,469, or 96.3 per cent. The most recent evidence was supplied by the Sun Assurance Society, which announced that total abstainers of at least two years' standing would be allowed an immediate reduction of 5 per cent. In the Foresters, a fraternal society, the average sickness was 12½ days per annum, per man—in the Sons of Temperance, only 7½.

NATIONAL SOCIETY FOR THE EMPLOYMENT OF EPILEPTICS.

This society is one of the most useful of the philanthropic societies of this country. At the annual meeting of the Governors, it was stated that among the epileptic "colonists" sent to the country residence at Chalfont, a marked improvement had been noted in the majority of instances. The principles followed are the removal of the epileptics to the country, their suitable employment, under direction, in a well-regulated life, avoidance of excitement, an abstinence from alcohol. The Chalfont colony has made rapid progress during the five years of its existence.

AUTOBIOGRAPHY OF SIR JOSEPH FAYRER.

The autobiography of Surgeon-General Sir Joseph Fayrer, K.C.S.I., LL.D., just published, is a record of a most interesting career. In 1853, he was appointed resident surgeon at Lucknow, where a most eventful period of his life was passed. The ideas entertained by rich natives of adequate professional fees might arouse envy, but Sir Joseph never accepted a larger fee than he thought just. When he restored to health one of the wives of an Indian king, in Durbar, the latter ordered 20,000 rupees to be sent him. He actually received 3000, and other gifts in kind. A little later the mutiny broke out, and he found himself shut up in Lucknow, to undergo the horrors of the siege.

CLINICAL LABORATORIES AT WESTMINSTER HOSPITAL.

The clinical laboratories which have been added to Westminster Hospital were opened in the presence of Lord Lister, the presidents of the Colleges of Physicians and of Surgeons and a distinguished audience. They are equipped with the latest apparatus, and the most recent microscopic, chemical and bacteriologic methods will there be applied in the diagnosis of disease.

OCCLUSION OF CENTRAL ARTERIES OF RETINA.

At the Ophthalmological Society, Mr, Jessop described a case of occlusion of both central arteries of the retina in a woman aged 35, who had been married nine years, and had no living children. She had had a miscarriage soon after marriage, and eight months ago she was delivered of a child at the ninth month, which lived only a few hours. On Oct. 21, 1899, while in apparently good health, on awaking, she found that she was blind in the right eye.. Signs of embolism of the central artery of the retina were found with the ophthalmoscope. On December 20, she suddenly lost vision in the left eye, and the signs of embolism were again found. Now both discs are atrophied and the retinal arteries are reduced to mere threads, and in paces there is a white thickened condition of the sheath--periarteritis. The vision of the right eye has improved to be 6/36, but with the left there is perception of light only. Mercury has been given. No source of the emboli could be suggested, but the condition is probably of syphilitic origin.

EPIDEMIC CEREBROSPINAL MENINGITIS.

At the Royal Academy of Medicine, in Ireland, Dr. Drury read a paper on this subject. He had met with 8 cases at the Cork Street Fever Hospital. The first patient, a man aged 20, was admitted on November 18, and after a prolonged illness recovered. Of the other 7 patients, 4 died. In only one case was there a rash—a typical feature of the great Dublin epidemic of 1866-67. This rash was not petechial, but pustular, with hemorrhage into the pustules, and came on late in the disease. In all cases the disease commenced suddenly, with rigidity of the neck or retraction of the head, and sometimes with opisthotonos. All the patients had deafness in some degree, pain in the head and limbs, and Kernig's sign. Dr. Falkner presented a table showing the number of deaths in Dublin from meningitis from 1895 till 1900. From 1895 till 1899, the average number of deaths from all forms of meningitis for the first nineteen weeks of each year was 102, but in 1900 it was 182, and the increase embraced ordinary tuberculous, cerebrospinal and secondary meningitis. Sir J. W. Moore said that in the present epidemic, he had found that the most successful measures were leeching and the repeated application of small blisters behind the ears. The agonizing headache was relieved by a combination of acetanilid, caffein, and sodium bicarbonate. Dr. O'Sullivan described post-mortem appearances in some of the cases. The fluid obtained by lumbar puncture was turbid, but colorless. The pus in the spinal region lay, in one case, outside the dura, the cord being apparently healthy. In the other cases, it lay in the meshes of, or underneath the pia, and the cord was softened. The diplococcus intracellularis was found in the turbid fluid, and in the pus, usually in pure culture. Professor McWeeny remarked that there was a disease of horses in which the essential lesion was a cerebrospinal meningitis. Intracellular cocci had been found in the pus, and it was quite possible that the disease might be identical with human cerebrospinal meningitis. Numerous cases had been observed in horses in Dublin—a fact of interest in connection with the present epidemic.

CERTIFICATES OF INSANITY.

The unsatisfactory condition of English law in the matter of certificates of insanity, is illustrated by a case just concluded. A coachman, in a state of great mental depression, consulted a medical man because his wife was pregnant, and he was alarmed at the responsibility of the future. His wife stated that he threatened to murder both her and her children. When seen at his house, the patient said "he heard voices which prevented him from sleeping." As his wife was still alarmed, the doctor communicated with the relieving officer, who removed the patient to the lunacy ward of the workhouse.

After three days he was discharged. He brought an action against the doctor, alleging that his detention was due to professional negligence. Expert evidence was given, showing the case to be of suicidal mania, that the defendant had acted most properly in the plaintiff's interest, and that rapid recovery was quite possible. A verdict for the plaintiff—the only possible one—was given, and the defendant was mulcted in costs. This means that of the expenses incurred in defending the suit, probably at least $500, a portion cut down by the taxing-master to the lowest figure will be due from the plaintiff. Considering the plaintiff's position, it is probable that the doctor will never be able to recover a penny. This is the state of English law: A medical man in the discharge of his duty in securing the detention of a patient who is a danger to himself, to his family, and perhaps even to the public, is exposed to the inconvenience, anxiety, and cost of legal proceedings. It is not to be wondered at that, as a result, many doctors will under no circumstances sign a lunacy certificate.

BORIC ACID AND FORMALIN AS MILK PRESERVATIVES.

A number of prosecutions of milkmen for selling milk to which boric acid or formalin had been added as a preservative, has resulted in fines being imposed of from ten to fifty dollars. There was some conflict of medical evidence whether the quantity of boric acid present was injurious. In several cases the cream contained .5 per cent. of boric acid. Professor Boyce stated that this quantity would be injurious if taken continuously. He based his opinion on experiments made by him on kittens, in which the boric acid retarded digestion. Dr. Rydial, a public analyst, stated that he had made a special study of the subject. He agreed with those who said that a certain proportion of boric acid was poisonous, but this depended on the quantity taken. To get a medicinal dose of boric acid 700 to 800 cups of tea would have to be taken. Borax and honey were recommended for infants by nine out of ten monthly nurses. He had never heard of less than fifteen grains a day injuring an adult, or five grains a child.

WOUNDS IN THE BOER WAR.

One of the most remarkable facts established by the South African War is the great humanity of the modern bullet, and the possibility of rapid and complete recovery from wounds of almost any organ of the body. The brain, lungs, liver and abdomen have been traversed by bullets, with comparatively trivial results. The only vital organ for the Mauser or Lee-Metford bullet seems to be the heart. Many of the ideas previously held as to treatment have been quite exploded. The percentage of recoveries among the wounded treated at the hospitals has sometimes been as high as 96. Mr Treves stated that in his experience 60 per cent. of those shot in the abdomen recovered without operation, while, on the other hand, the result of operations in the field was bad. He considered that laparotomy was indicated only when the patient was seen within seven hours of the injury, and only when the transport was short and easy, when the wound was anteroposterior above the umbilicus, and the bullet had escaped, when there was excessive hemorrhage, and in some wounds below the umbilicus with escape of the bullet, especially if hemorrhage had occurred. He attributed the high rate of recovery without operation to the fact that most of the men, when shot, were fasting, that peristalsis was inhibited for some time by the shock, and that the Mauser bullet makes a very small "slit-like" hole in the intestine. In wounds of the knee-joint, amputation was scarcely ever performed, and in most cases recovery was rapid and the mobility of the joint was little, if at all, impaired. This is in strong contrast with Sir Thomas Longmore's report that in the Crimea "Not one wound of the knee-joint recovered without operation," and the fact that in the Civil War out of 3355 recorded cases, 2431 were treated by amputation at the knee-joint or through the thigh, with a mortality of 55 per cent.

GASTROENTEROSTOMY FOLLOWED BY PYLORECTOMY.

At the Clinical Society Mr. Arthur E. Barber described a successful case of this kind in a woman, aged 55, who had symptoms of partial intestinal obstruction, and a tumor to the left of the left rectus muscle under the border of the ribs. On abdominal section the tumor was found to be a cancer of the pylorus. Retrocolic gastroenterostomy was performed, and five weeks later the pylorus was removed and the resulting openings in the stomach and duodenum closed. The patient recovered rapidly, increased in weight, went about as usual, and ate ordinary food. She died from recurrence one year after the operation. Murphy's button was used, and was passed on the twelfth day. The operation was much facilitated by taking it in two stages.

MIDWIVES' BILL.

The discussion and excitement produced by the "Midwives' Bill" is subsiding. By this measure it is proposed that the government shall regulate the practice of midwives. They will be registered, and in future an examination will have to be passed by every woman who desires to be placed on the roll of those who present themselves to attend normal labor for the purposes of gain. The violent and unreasonable attack on the measure made by those who are supposed to represent the interests of the general practitioner has been quite ineffective, and has only served to make the public regard the profession, or at least that part of it, as actuated by the most sordid motives. The cry was raised that a new and ill-instructed order of medical practitioners was being created, into whose hands the destinies of the parturient woman were to be confided, much to her disadvantage. But the fact is that already—from economical or other motives—considerably more than half the labors in the country are attended by midwives. The question, therefore, is—and the agitators decline to face it—should the public be left at the mercy of the ignorance and incompetence of many of these women, or should a better and properly trained class be created? The men who profess so much solicitude for the parturient woman, and who are horrified at the idea that she should be attended by a properly trained midwife, were never troubled by the fact that she was being attended by an untrained one. The bill has passed its second reading in the House of Commons by a large majority, and the most the opponents now hope for is to be able to modify it.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.

This institution continues to make steady progress, in spite of the ill-feeling and jealousy which its inauguration has aroused, in a small circle, among some of the older institutions. While the smaller metropolises of every country in the world have for many years made ample provision for post-graduate instruction, nothing worthy of the name existed in London before the establishment of the Polyclinic. ,Some distinguished surgeons yet regard it as a most unnecessary innovation, and the greatest and most authoritative of medical journals, the views of which are rightly received with respect all over the world, doubted its utility and said that it would "abstract much energy from existing institutions." Truly we are a conservative people! A dinner in order to raise funds, of which the Polyclinic is still in great need, has just been given at the Trocadero Restaurant, under the presidency of Lord Strathcona and Mount Royal, formerly High Commissioner for Canada. He was supported by Sir William Broadbent, Mr. Jonathan Hutchinson, and many other well-known men. About £600 was subscribed.

THE HILL STATIONS OF INDIA AS HEALTH RESORTS.

At the meeting of the British Balneological and Climatological Society, Sir Joseph Fayrer delivered an address on this subject. He considered these stations not merely in reference to the treatment of disease but also as resorts in which Europeans might preserve health and avoid the physical deterioration of protracted residence on the plains, and where it seems even possible that they might thrive and propagate. History shows that colonization of the plains is impracticable. Of the Portuguese, who preceded the British, no descendants without an admixture of native blood exist. Every variety of climate is met in India. Malaria is wide-spread on the plains, and here Europeans can not exist for any continuous length of time, but, there are many hill stations where they can live, and many other localities which have never been explored. There are good reasons to suppose that in the vast mountain ranges and tablelands of India the physical and climatic conditions necessary for the preservation of health, and perhaps even for colonization by Europeans, exist to a much greater extent than has been heretofore supposed.

RAISING THE STANDARD OF PRELIMINARY EDUCATION.

A further attempt to raise the standard of medical education is now being made by the General Medical Council. At the last meeting Sir John Batty Fulse presented a report by the Education Committee on the question of raising the standard of preliminary examination in general education. Detailed suggestions were made as the result of reports received from experts throughout the United Kingdom. It was also proposed that an age limit should be fixed, below which an applicant could not be registered as a medical or dental student. The committee proposed that this limit should be fifteen. At some future time, when the standard of preliminary education had been raised, it might be advisable to raise the limit to seventeen. This would have the effect of inducing those who intend to enter on the study of medicine, to spend a longer time over ordinary school subjects, thereby better fitting them for the more stringent examinations it was proposed to require.

Correspondence.

Rambling Notes of a Roving Doctor.

VIENNA, AUSTRIA, May, 1900.

NAPLES—PELLIGRINI HOSPITAL.

To the Editor:—After my arrival in Europe from the far East, I spent several weeks at Naples, and while there, made frequent visits to some of the principal hospitals. The Pelligrini has one hundred and fifty beds, and its service is entirely devoted to the treatment of accidents and emergency cases. While the Englishman usually uses his fists to wreak his vengeance on his enemy, the Italian is prone to use a knife or a revolver, whichever happens to be at hand, and he usually has one of these weapons on his person. These cases are all brought to the Pelligrini for treatment, and I believe that this is the richest field in the world in which to study, in civil practice, gunshot and stab wounds. I made my visits here early in the morning, and never failed to find from two to six fresh cases for examination and treatment. Fresh knife wounds are dressed with moist gauze, wrung out of a 1 to 1000 carbolic acid solution. Wounds about the head and face, if much infected, are usually cleansed with this solution, and then allowed to heal by granulation without being stitched. In the treatment of penetrating wounds of the abdomen, whether made by a knife or pistol ball, one universal rule is followed, that is, to open the peritoneal cavity at once and carefully examine all its contents. It makes no difference whether the patient has any symptoms or not, this rule is most strenuously enforced. If the intestines are uninjured, and the other abdominal organs intact, the operation has been simply of an exploratory character and the patient will have suffered no harm. On the other hand, if it is decided to wait for symptoms of intestinal injury to develop, the delay will have been too great and the case will terminate fatally in spite of interference. In closing wounds of the intestines, two rows of fine silk sutures are used, the first including both the mucous and serous membranes, the second, the serosa alone. I noticed a set of Murphy buttons among the instruments and asked the surgeon, Dr. Jacobelli, if they used this appliance often in their intestinal work. He said that they did not, and that in the few cases in which they had used it, they had experienced trouble and that there had been delay in its passing from the bowels. He thought, however, that the Murphy button was a wonderfully ingenious appliance and had a place in intestinal surgery, but that that place was limited mostly to operations done by men who had little experience in this kind of work.

In cases where an intestine has been wounded, and a portion of its contents has leaked out into the peritoneal cavity, unless this leakage has run over a very large surface, the parts are never irrigated, but are simply sponged out with dry gauze. They claim that the attempt to cleanse a circumscribed contaminated surface by flooding the parts with water, must necessarily infect the whole serous surface of the abdominal cavity.

In operating for hernia, they follow to the letter Bassini's technique, and though they appeared to take great pains in their antisepsis, nearly all the wounds suppurated before they healed.

I saw some very good orthopedic surgery done in Naples. In cases where it is necessary to fracture a long bone to remedy a deformity, they divide the bone for about one-third of its thickness with a chisel, and then break it with the hand, ignoring all the powerful appliances made for that purpose.

VIENNA AS A MEDICAL CENTER.

For the fifth time during the last quarter of a century, I find myself in the Austrian capital, and while I prefer this city as a place of residence to any other in Europe, the chief attraction of Vienna for me has always been her advantages as a medical center. When I first came here, this was the only city in the world where post-graduate instruction was systematically given. At that time I was more ambitious than I am now, and knew less exactly what I ought to study; hence I tackled everything, including the eye, nose, throat, skin, obstetrics, gynecology, general surgery, internal medicine, and, in fact, whenever I saw a private course on any subject whatever bulletined inside of the walls of the *Allgemeines Krankenhaus*, I took that course. During my last two visits here, I have devoted myself mainly to that most important but most neglected branch of our profession, internal medicine, together with such laboratory and dead-house work as would aid me in better comprehending this subject.

I propose in this letter to advise my readers who should come here and who should not. A young physician of moderate means, with little or no knowledge of the German language, who has been graduated four or five years, and can not be absent from his field of labor more than three or four months, unless he is a fraud and is going abroad just for the name of the thing, would better stay at home and do his work at one of our own schools, where he can get much more that will benefit a general practitioner and in a shorter time, than he can anywhere in Europe. On the contrary, if he wishes to study a specialty, like the eye, nose, throat, skin or venereal disease, I know of no place where one can be better taught than in Vienna; but to receive the full benefit of such teaching, he must know German. To do this alone will take him three or four months, during which time he will have learned only a little of his subject, and that by the sense of sight.

On my way from Venice to Vienna, I met a bright young Chicago doctor who was coming to Vienna for surgery. He knew no German. He told me further that he had been an assistant of Professor Senn at the Presbyterian Hospital for one year. I told him he would find himself like the man from Newcastle who had left that city in search of coal. I saw him many times after and he always wore such a downcast, dejected, disappointed look, that I pitied him from the bottom of my heart. Vienna is, and has been for a quarter of a century, one of the most disappointing places in which to see surgery that I have visited. Billroth, although a learned and scientific man in the branch he taught, was a wretched instructor; Gussenbauer, his successor, is very little better. It is the ambition of every student who studies at one of the surgical clinics here to become an assistant. If he gets this position, he prints the fact in large letters on his cards and puts it on his sign when he locates for practice. The result of all this is that Gussenbauer has about twenty-five assistants, and that when a patient is put on the table in the amphitheater for operation, these fellows, dressed in white gowns, hover around the table like vultures around a carcass, and no one else can see anything that is being done. On two successive days Gussenbauer resected the pylorus for cancer. He had twenty assistants around him, and the seventy-five men who sat on the benches of the amphitheater might just as well have been seated in a café across the street, so far as getting any benefit from the operation was concerned. Albert, on the contrary, is a fine teacher, but does not himself operate, leaving all that kind of work to his assistant, Dr. Ewald. The lecture room in which these two men teach and operate, is most crowded, stuffy and uncomfortable, and I avoided it as much as possible. I believe that our surgeons in the United States are better guides than are foreigners, because we are more careful of human life.

For one who is looking after gynecology, the only advantage

that Vienna offers over the United States is the number of patients that he can examine with a view of making a correct diagnosis. If, however, he wishes to see gynecological operations, he can see more of such work in the United States, and see it equally well or better done. The only way one can become a welcome visitor to either of the two gynecologic operating-rooms in Vienna, is to take the private courses given by the first assistants to these departments, which are the most expensive of any given in the *Allgemeines Krankenhaus.*

I believe that the only advantage for the study of surgery here is for the young man who wishes to learn this branch by operating on the cadaver. Several of the assistants at the surgical clinics give courses where one can do all important operations on the dead body, under the eye of a competent teacher. In connection with these courses, surgical diagnosis is taught, using the large outdoor material for that purpose. In the matter of obstetrics, I do not believe there is any place in the world where one can find so much material as in Vienna and where it is so thoroughly utilized for teaching purposes. To be benefited by what can be obtained in this line, at least six months' stay is essential, and a considerable sum of money must be paid to assistants. If one attends one of the lying-in clinics for six months, he can see a number of normal labors and be present and assist at as many obstetrical operations as he would be likely to encounter in a lifetime of practice.

In my opinion, however, the teaching of internal medicine in Vienna gives a student better advantages than are to be obtained at any other place. I am glad to see that this opinion is being held and acted upon by a large number of the young American physicians. Twenty years ago I found myself the only English-speaking student among a class of ten men studying this branch of medicine. To-day, over ten out of about eighty American post-graduate students who are in Vienna are studying internal medicine. Two of the best men who teach this subject have classes composed exclusively of Americans, and to get into one of these classes, one has often to apply weeks ahead. The teachers in Vienna are no better than our best men at home, but the material in the hospitals here can be better utilized for teaching purposes than at any place I have ever been on the other side of the Atlantic.

The prime defect in all medical teaching in the United States is the didactic lectures, and as long as this system is kept up, illy-qualified men will be sent out to practice medicine. A strange feature of this subject is that the Anglo-Saxon still persists in this most faulty mode of giving instruction in this important branch of our profession. Some years ago, I gave my card to Dr. Reese, of Guy's Hospital, London, and asked the privilege of attending his lectures for a few weeks. He asked me where I had spent my time while abroad and I told him I had just left Berlin, where I had attended Frerich's clinic at the Charité. He replied, "You would better have stayed there, for as compared with what you get there, you will find anything you will get in London very thin." And thin I found it, for he read his lectures from a manuscript and his class amused themselves by throwing paper balls at each other's heads.

Though the private courses given in Vienna are given by assistants, many of these men are as good teachers as the professors themselves. Nothnagel, Neusser nor Schrotter never appears before a class to deliver a lecture, without a patient to illustrate the subject.

EXPENSE IN VIENNA.

As the matter of expense is a subject of interest to the majority of students who come to Vienna to study medicine, I will close this letter by giving a few items of information on that point. The best way to live is to rent a small furnished apartment and take meals at a café or restaurant. A suitable room for two persons will cost about twelve dollars per month and board one dollar per day. Private courses generally cost forty cents per hour, though some are much more expensive. The laboratory and the dead-house course in internal medicine with many post-mortems, and bedside instruction, all told, will cost $1.25 per day.

W. S. CALDWELL, M.D.

Typhoid Fever in the Second Pennsylvania Infantry.

ANN ARBOR, MICH., July 2, 1900.

To the Editor:—In your issue of June 30, Dr. Francis R. Packard wishes to know from what source I obtained authority for the statement: "The claim is made by an assistant-surgeon of one of the Pennsylvania regiments that there was not a case of typhoid fever in his command, but the records of the Philadelphia hospitals show that certain cases sent from this regiment proved to be typhoid fever."

My authority for the statement will be found on page 85, Volume xiv, "Transactions of the Association of American Physicians." In the discussion of a paper read by me, Dr. S. Solis-Cohen made the following statement: "It is a matter of record that Col. J. Biddle Porter's regiment, the Second Pennsylvania, had no typhoid fever, and but two cases of illness from any cause." It is true that Dr Packard states in his article concerning the health of this regiment: "Before proceeding further, I would premise by stating that throughout the regiment's stay in camp there was but one death, that of a sergeant, who did not come to the hospital at Penn's Grove until two days before his death, and who was then delirious and in a practically moribund condition with typhoid fever. He had been absent in Philadelphia for some time previous to his illness. There was no other case of typhoid fever in the regiment, nor was there a single other case of really serious illness of any kind."

The statement in my paper should be changed to read as follows: "The claim is made by an assistant-surgeon of one of the Pennsylvania regiments that there was but one case of typhoid fever in his command, but the records show that certain cases sent from this regiment proved to be typhoid fever." I know very little about the medical history of the Second Pennsylvania. In the division of our work among the different members of the board, this regiment fell to Major Shakespeare, and I have no doubt that his part of the report will contain a full and accurate description of the diseases of this regiment. I have a list of deaths from all the regiments, obtained from the office of the Adjutant-General in Washington. This official record credits the Second Pennsylvania Infantry with two deaths from typhoid fever, as follows: "William C. Hagen, Corporal of Company D, died in Philadelphia, November 4, of typhoid fever; David McGlensey, First Sergeant of Company F, died August 15, 1898, at the camp at Penn's Grove, of typhoid fever." This last is undoubtedly the case referred to by Dr. Packard in his paper on the health of the regiment. I have not a complete list of the sick from this regiment, but on a slip of paper sent me some months ago by Major Shakespeare, I find the following record: "Rudolph King, private of Company A, of the Second Pennsylvania, admitted to Jefferson Medical College Hospital, Philadelphia, from quarters, Sept. 19, 1898; discharged Oct. 22, 1898; Austin Halman, private of Company A, Second Pennsylvania, admitted to Samaritan Hospital, Philadelphia, Sept. 17, 1898, from quarters; discharged Oct. 22, 1898." I do not know whether this includes all the cases of typhoid fever reported from this regiment or not.

I am very glad that Dr. Packard has called my attention to the misstatement made in my article, and I will be glad to correct the same. The members of our board have been very anxious to have every statement absolutely correct, and I will thank anyone who will point out errors of fact or statement in any of the papers which I have read on the subject.

Dr. Packard states in his article in THE JOURNAL: "Not a single case of illness of any kind whatsoever was sent from our regiment to a Philadelphia hospital during our entire camp life." It will be seen from the names quoted above why I made the statement I did about the sending of patients from the regiment to the Philadelphia hospitals. When an official record states that a patient was admitted "from quarters," it is understood that the patient came from the regiment or company camp. It is easy, however, to explain how it is that Dr. Packard makes his statement. The regiment, as he states, returned to Philadelphia September 15, after which he had no control or even knowledge of the sick, and the above-mentioned cases were admitted to the hospital after that date.

VICTOR C. VAUGHAN.

Increase in Venereal Disease in Paris.

PARIS, FRANCE, May 10, 1900.

To the Editor:—An evil almost inseparable from all World's Expositions is the great increase in the number of venereal diseases. Not only are the native contributors to immorality largely increased by the presence of a greater pleasure-seeking population, but a great influx of prostitutes from all parts of the world adds to the enormous number of clandestine debauchees. The statistics of l'Hôpital Ricord show an increase out of all proportion in the number of soft chancres during exposition years. This is explained by Prof. Fournier as due to the large increase in clandestine prostitution, and to the importation of a more uncleanly class during this time. This fact about the soft chancre is so well known that Mauriac, at l'Hôpital Ricord, when requested to send over cases with the Ducret-bacillus, some months ago, replied, "*Eh, bien! Il faut attendre pour l'ouverture de l'Exposition.*"

As syphilis is recognized to be, with alcoholism and tuberculosis, one of the great scourges of France, we consider as very apropos, the lecture of Prof. Alfred Fournier, May 4, in the Amphitheatre of l'Hôpital St.-Louis, on "Sterilization of Syphilis." The audience, composed principally of foreign physicians, showed an interest in the humanitarian aspects of the subject which would put to shame the prudish position taken by many American and English physicians who would consign the whole question to oblivion.

Professor Fournier considered the word "sterilization" to include all means used to prevent the transmission of the disease, by measures applied directly to the individual infected; so that this one case, at least, should not produce another. As illustrating syphilis of the sterile type might be mentioned for example an honest, intelligent, and careful man who might unfortunately contract syphilis, but who in his regard for the welfare of others would follow carefully the hygiene and treatment ordered him and would wait until cured before contemplating matrimony. Such a case would remain sterile as to further transmission. On the other hand, as a type of syphilis fecund in results take a woman, careless of her person, ignorant, lazy, who only follows treatment the shortest time possible; let her develop contagious accidents and she may transmit the disease to three or four persons, not to mention the case of a prostitute, who, in a public house, having three or four sexual "*rapports par jour,*" may sow the disease broadcast. The number of men infected by these women may be learned by reading army reports where the military laws compel the soldiers to denounce the woman by whom they were infected. Cases are reported of ten, twenty and thirty men who have been infected with syphilis by the same woman. In a report recently read before the Academy of Medicine of Paris by one of the examining physicians of the service of firemen the case of one woman was reported, who infected thirty-five firemen. In another case, a girl of 17 showed on examination enormous mucous patches of the vulva which had existed for six months, during which entire time, not excepting her menstrual periods, she had had an average of three connections a day, with the patrons of the low wine-room where she was waitress. Allowing that four hundred and fifty men had been exposed to contagion and that only one in three had been infected, we have the enormous total of one hundred and fifty cases of syphilis contracted from one woman. Such appalling facts bring us to consider the conditions which influence the fecundity or sterility of syphilis.

1. The intelligence of the subject. The careless, thoughtless, ignorant prostitute has an amazing fecundity of transmission as compared with an honest mother infected by her husband, in which latter case there is almost no further transmission.

2. Too short or insufficient treatment, which may be due to no lack of conscientiousness on the part of the patient, but to insufficient emphasis by the physician on the necessity of prolonged treatment.

3. Quality of the syphilis, benign or malignant. Often the benign cases are especially dangerous by reason of the insignificance of the primary lesion, and the trifling inconvenience from the mucous patches. Heavy smokers are also liable to a recurrence of mucous patches ten to twenty times.

4. Inability to hospitalize the cases, which, if practicable, would render the disease infecund by sequestration.

5. Social conditions, poverty and crowding in tenements, which by favoring promiscuity in the use of household and toilet articles and eating utensils, favor fecundity of infections.

6. Professional conditions. Glassblowers, whose trade compels the passing of the same tube from mouth to mouth, suffer regular epidemics of syphilis when a man with mucous patches is admitted to their number. In France, women whose profession consists in forming and developing the nipples of young mothers have spread small epidemics of syphilis by inoculation of fissures in the nipples from mucous patches in the mouth. Vaccinators in rural districts, when human lymph was used, infected hundreds of cases. In Russia, professional cuppers have infected as many as two hundred cases by means of infected cupping instruments.

Fournier considered five syphilitic lesions as principal agents of transmission: 1, chancre: 2, erosion or mucous patches (secondary); 3, ulcerations (tertiary); 4, blood in secondary state, and 5, vaccin.

Of the first two, the chancre played a small part, while the mucous patches played an enormous rôle; out of twenty cases caused by the two, the mucous patch would cause eighteen, the chancre two. This is easily explained by the transitory character of the chancre, which disappears after two to three weeks, never to be reproduced, while the mucous patch may recur twenty, thirty or forty times; multiple localization of mucous patches on the lips, mouth, tongue, vagina, vulva, glans penis, and skin; their long period of recurrence after many years, being especially dangerous during the three first years; and the fact that the lesions are regarded as so trivial emphasize the importance of this manifestation. Ninety-nine per cent. of married men who infect their wives do so by mucous patches. The great point in the prophylaxis of syphilis is sterilization of the mucous patch, which must be done again and again as often as it recurs.

What are the means of sterilizing syphilis?

1. Sterilize by thorough, long-continued and completely-carried-out treatment.

2. Instruct patient regarding danger incurred by others in all forms of personal contact, even an innocent kiss on the cheek. Give printed instructions to avoid allowing anyone to use the knife or fork, glass, comb or brush used by patient. Advocate giving a small printed brochure with some elementary facts in regard to the disease, not painted so as to alarm, but so as to impress on the patient the gravity of the disease and the means to be adopted to prevent communication. Fournier favors hospital conferences or lectures especially gotten up for syphilitics, not burdened with pathologic descriptions, but hygienic advice how to get well, and how to prevent others contracting the disease.

3. Relieve excessive crowding of clinics. At St. Louis, out of two or three hundred cases every morning who pass before the consultant, forty or fifty syphilitics would take up too much time to properly instruct. Increase the number of venereal clinics. Make obligatory on all medical students to serve a sufficient length of time in a venereal clinic to become competent in recognizing syphilis.

4. Hospitalization with sequestration of the patient and his disease would render the greatest service. This would be necessarily impossible, inasmuch as the period of disease extends over two or three years and the treatment would be immensely expensive, and as, even if hospital facilities were afforded, patients would not enter for so apparently simple a thing as a mucous patch of the lip.

5. Surveillance and compulsory seclusion of prostitutes known to have syphilis in any form. This method of police surveillance and seclusion has been attacked more violently than ever by the puritanical British Purity League, which would abolish all vigorous measures against prostitution. This league, which, gloating over its victory in suppressing the Contagious Disease Act of England, in 1886, is stretching out its baneful influence toward the continent, should be as vigorously fought by all medical men as the antiquated idea that all epidemics were visitations of Providence. All the cant of

the league about the medical visits of inspection being outrages to their sisters, the prostitutes, is simply ridiculous. The law, while in no way approving or sanctioning prostitution, must exert its rigors of inspection and policing on the women, as they only put themselves on the market. While there are only 5000 prostitutes in Paris under police surveillance, the great danger comes from the infinitely greater number of clandestine prostitutes. To demand the complete abolition of all police control over these women because all cases of syphilis are not detected would be as reasonable as to abolish all the gendarmes because all the thieves are not caught. While heartily in favor of all moral reforms, such as early marriage, asylums for reclaimed fallen women, elevated moral life, etc., medical men must remember that their obligation to society is not to question the morals of the case, but to cure and prevent disease.

Fournier advocated as reforms in the consultations for the poor:

1. Relieve the strain on present clinics by a large increase in venereal dispensaries, which shall be open every day and shall have night séances.

2. Render them easy of access; prevent the long waits as at present; encourage rather than repel their applications for relief.

3. Make the consultations approach as nearly as possible the private city consultations, so that the patient will not be compelled to relate his history before his fellow patients.

4. Make them free, instead of paying as at present, for the loss of time as deducted from the wages of women is fifteen to forty cents, for men, eighty cents to a dollar a day. They should not be compelled to lose this money in order to be treated.

5. Consulting physicians should pass competitive examinations, and should be expert in venereal diseases.

He concludes by saying that the *dernier ressort* was the prophylaxis by treatment to the extermination of the disease.

A. D. MEWBORN, M.D.

Alcohol as a Food.

CLARENDON, TEXAS, June 13, 1900.

To the Editor:—I am surprised to see in *The Dallas News*, an editorial which quotes THE JOURNAL, and other medical journals, as authority for the statement "that alcohol can not by any scientific evidence be called a food." I supposed that all scientific medical men of this day had long since accepted as a fact established, and no longer *sub judice*, that alcohol up to a certain amount was consumed and utilized as food. I am therefore exceedingly surprised to see a reputable medical journal discuss the subject at all, and, of course, much more so to find it lending its influence to the propagation of false teaching. I have at hand the latest and most authoritative teachings on the subject which agree fully with my observation and experience that, in the language of one of these authorities—Thompson—"In many cases of malnutrition, and malassimilation of food, alcohol is itself a food, and its consumption under proper direction, results in an increase of body-weight and strength and improvement of functional activity," and "there are a number of diseases in which the use of alcohol is a positive service, and in which it becomes a necessity in order to save or prolong life."

H. I. WINN, M.D.

Deaths and Obituaries.

ALEXANDER JOHNSTON CHALMERS SKENE, M.D., of Brooklyn, N. Y., who died from a cardiac ailment on July 6, at his summer home, at Highmont, in the Catskills, was born in the parish of Fyvie, Aberdeenshire, Scotland, June 17, 1837. His family, one of great antiquity, includes warriors, statesmen and professional men, who were closely identified with the history of Scotland. He came to America at the age of 19 years, with a strong liking for zoölogy and the study of medicine. After a course at the University of Michigan, he proceeded to the Long Island College Hospital, from which he was graduated in 1863. The Civil War was then at its height, and he served as an acting assistant-surgeon, at David's Island, N. Y., and Port Royal, Charleston, S. C. After the war he identified himself with his alma mater as an adjunct professor, and soon became known as a diagnostician of singular acumen. As a gynecologist he had an international reputation, to which a masterwork published in 1883 liberally contributed. He was a purist in style, a careful collator of facts, and an original classifier, besides being a lover of art and an amateur sculptor. His name is on the rolls of many medical and scientific societies.

J. H. BURNETT, M.D., Mariposa, Cal., died June 22, from epithelioma of the face. He was graduated from the Louisville National Medical College in 1891, and had since practiced in Mariposa.

GEORGE G. SAXE, M.D., formerly of Watertown, S. D., and a graduate of the College of Physicians and Surgeons, New York City, died at his old home, Madison, N. J., June 25, aged 55 years.

BENNETT BUSSEY, M.D., Biggs, Cal., died June 25, aged 93 years. He was graduated from the department of medicine in the University of Maryland, in the class of 1828.

J. T. M. CARDEZA, M.D., of the class of 1844, medical department of the University of Pennsylvania, died at his home in Claymont, Del., June 28, aged 79 years.

A. J. BATTLE, M.D., Wadesboro, N. C., died June 19. He was a graduate of the College of Physicians and Surgeons, Baltimore, Md., in the class of 1881.

CHAS. A. MACKIN, M.D., Milford, Mass., died June 29, aged 60 years. He was a member of the class of 1866, Harvard University Medical School

JOHN ASHHURST, JR., M.D. We regret to announce the death of Dr. Ashhurst, at Philadelphia, on July 7. A notice of his life and works will appear in the next issue of THE JOURNAL.

EDWARD S. REYNOLDS, M.D., Jefferson Medical College, Philadelphia, died at his home in Bellevue, Pa., July 1, aged 46 years.

LOUIS E. BONNE, M.D., Northwestern University Medical School, Chicago, 1893, died at his home in Chicago, June 25, aged 35 years.

LOUIS ARCULARIUS, M.D., University of Giessen, Germany, 1867, died in New York City, July 1.

DEATHS ABROAD.

We note the deaths of:

E. Dadet de Gassicourt, professor of pediatrics at Paris, founder of the *Revue Mensuelle des Maladies de l' Enfance*, and secretary of the Académie de Médecine.

Dr. Kuehne, director of the Institute of Physiology at Heidelberg.

Books and Pamphlets.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

BOOKS.

DISEASES OF THE CHEST, THROAT AND NASAL CAVITIES; Including Physical Diagnosis and Diseases of the Lungs, Mediastinum, Heart and Aorta, Laryngology and Diseases of the Larynx, Pharynx, and Nose and Special Diseases of the Thyroid Gland and Esophagus. By E. Fletcher Ingals, A.M., M.D., Professor of Diseases of the Chest, Throat and Nose, Rush Medical College. Fourth Edition. With Two Hundred and Fifty-five Illustrations. Cloth. Pp. 765. Price, $4.50. New York: William Wood & Co. 1900.

ANNUAL AND ANALYTICAL CYCLOPEDIA OF PRACTICAL MEDICINE. By Charles E. de M. Sajous, M.D., and One Hundred Associate Editors, Assisted by Corresponding Editors, Collaborators and Correspondents. Illustrated with Chromo-Lithographs, Engravings and Maps. Volume v. Cloth. Pp. 662. Price, $5. Philadelphia, New York and Chicago: F. A. Davis Co. 1900.

TUBERCULOSIS: Its Nature, Prevention and Treatment. With Special Reference to Open-Air Treatment of Phthisis.

By Alfred Hillier, B.A., M.D., C.M., Fellow of Royal Medico-Chirurgical Society, London. With Thirty-one Illustrations and Three Colored Plates. Cloth. Pp. 245. Price, $1.25. London, Paris, New York and Melbourne: Cassell & Co. 1900.

A MANUAL OF OBSTETRICAL TECHNIQUE AS APPLIED TO PRIVATE PRACTICE. With a Chapter on Abortion, Premature Labor, and Curettage. By Joseph Brown Cooke, M.D., Late Attending Physician St. Mary's Free Hospital for Children, Out-Door Department. Cloth. Pp. 169. Price, $1.25. Philadelphia and London: J. B. Lippincott Co. 1900.

NETTLESHIP ON THE EYE. New Edition. Diseases of the Eye, by Edward Nettleship, F.R.C.S., Ophthalmic Surgeon at St. Thomas' Hospital, London; Surgeon to the Royal London Ophthalmic Hospital, Etc. New (6th) American from the Sixth English Edition, Thoroughly Revised by William Campbell Posey, M.D. With a Supplement on the Detection of Color Blindness by William Thomson, M.D., Professor of Ophthalmology in the Jefferson Medical College, Philadelphia. Just Ready. In One 12mo Volume of 562 Pages, with 192 Illustrations. Selections from Snellen's Test-Types and Formulæ, and 5 Colored Plates. Cloth, $2.25, net. Philadelphia and New York: Lea Brothers & Co.

FRACTURES. By Carl Beck, M.D., Visiting Surgeon to St. Mark's Hospital. With an Appendix on the Practical Use of the Röntgen Rays. 178 Illustrations. Cloth. Pp. 335. Price, $3.50. Philadelphia: W. B. Saunders & Co. 1900.

A MANUAL OF MEDICINE. Edited by W. H. Allchin, M.D., F.R.C.P., F.R.S.E., Senior Physician and Lecturer on Clinical Medicine, Westminster Hospital. Vol. i. General Diseases, Diseases Excited by Atmospheric Influences, the Infections. Cloth. Pp. 442. Price, $2. New York: MacMillan & Co. 1900.

VIVISECTION. Hearing Before the Senate Committee of the District of Columbia, Feb. 21, 1900, on the Bill (S. 34) for the Further Prevention of Cruelty to Animals in the District of Columbia. Cloth. Pp. 223. Washington. Government Printing Office. 1900.

KING'S MANUAL OF OBSTETRICS.—New (8th) Edition. A Manual of Obstetrics. By A. F. A. King, M.D., Professor of Obstetrics and Diseases of Women in the Medical Department of the Columbian University, Washington, D.C., and in the University of Vermont, etc. In One 12mo. Volume of 612 Pages, with 264 Illustrations. Cloth, $2.50, net. Philadelphia and New York: Lea Brothers & Co.

NORMAL HISTOLOGY. By Edward K. Dunham, M.D., Professor of General Pathology, Bacteriology, and Hygiene, in the University of Bellevue Hospital Medical College, New York. New (2d) Edition. In One Very Handsome Octavo Volume of 319 Pages, with 244 Illustrations. Cloth, $2.50, net. Philadelphia and New York. Lea Brothers & Co.

PROGRESSIVE MEDICINE—Volume ii, 1900. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in Jefferson Medical College of Philadelphia. Octavo, Handsomely Bound in Cloth, 401 Pages, with 81 Engravings. Philadelphia and New York: Lea Brothers & Co.

THE CELL IN DEVELOPMENT AND INHERITANCE. By Edmund B. Wilson, Ph.D., Professor of Zoology, Columbia University. Second Edition, Revised and Enlarged. Cloth. Pp. 485. Price, $3.50. New York: The MacMillan Co. 1900.

UNIVERSITY OF PENNYSLVANIA. Contributions from the William Pepper Laboratory of Clinical Medicine. Paper. Pp. 477. Philadelphia: Press of Wm. F. Fell & Co. 1900.

MEDICAL AND SURGICAL REPORT OF PRESBYTERAN HOSPITAL IN THE CITY OF NEW YORK. Volume iv. January, 1900. Edited by Andrew J. McCosh, M.D., and W. Gilman Thompson, M.D. Paper. Pp. 223. New York: Trow Directory Printing and Bookbinding Co. 1900.

STIMSON'S OPERATIVE SURGERY. A Manual of Operative Surgery, by Lewis A. Stimson, B.A,, M.D., Professor of Surgery in Cornell University Medical College. New (4th) and Thoroughly Revised Edition. In One Royal 12mo. Volume of 581 Pages with 293 Illustrations. Cloth, $3, net. Philadelphia and New York. Lea Brothers & Co.

ON NEURO AND NEURO-FIBROMATOSIS. By Alexis Thomson, Fellow of Royal College of Surgeons of Edinburgh. Cloth. Pp. 167. Edinburgh: Turnbull & Spears. 1900.

SUGGESTIONS TO MEDICAL WRITERS. By George M. Gould, A.M., M.D. Cloth. Pp. 185. Price, $1.25. Philadelphia: Philadelphia Medical Publishing Co. 1900.

FOOD FOR THE SICK AND HOW TO PREPARE IT. With a Chapter on Food for the Baby. By Edwin Charles French, M.D. Cloth. Pp. 171. Price, $1. Louisville, Ky.: John P. Morton & Co. 1900.

PAMPHLETS.

AMERICAN PUBLIC HEALTH ASSOCIATION. Lomb Prize Essay, 1886. Disinfection and Individual Prophylaxis Against Infectious Diseases. Revised in December, 1899, by the Author. By George M. Sternberg, M.D., L.L.D., Surgeon-General U. S. Army. Paper. Pp. 45. Columbus, Ohio: Berlin Printing Co. 1900.

ANNUAL REPORT OF THE BOARD OF HEALTH OF THE CITY OF DAVENPORT, IOWA, Year Ending March 1, 1900. Paper. Pp. 24.

THE BUBONIC PLAGUE. By Walter Wyman, Surgeon-General Marine-Hospital Service. Paper. Pp. 50. Washington: Government Printing Office. 1900.

CASE OF FOREIGN BODY PASSING DIRECTLY THROUGH THE EYE AND LODGING IN THE FATTY TISSUE IN THE POSTERIOR PORTION OF THE ORBIT—DISLOCATION OF LENS—RECOVERY—CASE OF FOREIGN BODY IN THE LENS—CATARACT—IRIDECTOMY—REMOVAL OF STEEL WITH MAGNET—REMOVAL OF LENS—INTRAOCULAR HEMORRHAGES—EVACUATION OF HEMORRHAGES—GOOD RESULT. By Frank Allport, M.D., Chicago. Reprinted from Ophthalmic Record.

CRIMINAL ABORTION: Its Evils and Sad Consequences. Carcinoma on the Floor of the Pelvis. Microscopical Studies in Pelvic Peritonitis. A Hitherto Undescribed Disease of the Ovary; Endothelioma Changing to Angioma and Hematoma. Another Hitherto Undescribed Disease of the Ovaries; Anomalous Menstrual Bodies. The Third Hitherto Undescribed Disease of Ovary: Myxomatous Degeneration. The Fourth Hitherto Undescribed Disease of Ovary: Colloid Degeneration. Diagnosis and Some of the Clinical Aspects of Gyroma and Endothelioma of Ovary. By Mary A. Dixon Jones, M.D., F.R.M.S. Reprints.

GASTROSTOMY FOR TRAUMATIC STRICTURE OF ESOPHAGUS—REPORT OF CASE—TREATMENT OF CANCER OF CERVIX OF THE UTERUS COMPLICATED BY PREGNANCY. By George Ben Johnston, M.D., Richmond, Va. Reprints.

HEMORRHAGE AND CIRCULATORY DISTURBANCES IN COMPLICATED FRACTURE; MANAGEMENT OF LARGE CONGENITAL EXOMPHALOS—INFANTILE, RADICAL OR TENTATIVE TREATMENT OF PILES, AND THERAPY OF FEMININE HERNIA IN THE ADULT. By Thomas H. Manley, M.D., New York. Reprints.

A MODERN STUDY OF GOUTY AND RHEUMATIC MANIFESTATIONS. Translated from the French. Revised Second Edition by Edmond L. Gros, M.D., of the Faculty of Paris. Paper. Pp. 23.

MEDICAL LEGISLATION IN NEBRASKA. By H. Winnett Orr, M.D., Lincoln, Neb. Reprinted from Western Medical Review.

NASOPHARYNGEAL ADENOIDS AS A CAUSATIVE FACTOR IN EAR DISEASES. Myopia. Operative Treatment in High Degrees. Allen T. Haight, Chicago. Reprinted from THE JOURNAL of the A. M. A.

PHOTOTHERAPY. As Used in Tuberculosis of the Lungs. By J. W. Kime, M.D., Fort Dodge, Iowa. Reprinted from the Iowa Medical Journal.

PACHYMENINGITIS: REPORT OF A CASE AND AUTOPSY. By Samuel E. Earp, M.D., and John T. Scott, M.D., Indianapolis, Ind. Reprinted from the Medical and Surgical Monitor.

PROCEEDINGS OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY. April, 1900. Paper. Pp. 62. Philadelphia: Published by the Society. 1900.

PURE FOOD LEGISLATION. Speech Upon the Evils Arising from Aulterations in Food, Their Extent, and the Legislation Necessary to Prevent the Use in Food of Alum, Sulphuric Acid, Copper Salts, Zinc, and Other Poisonous Substances, in the Senate, Wednesday, May 2, 1900. By Hon. Wm. E. Mason. Paper. Pp. 32. Washington: Government Printing Office. 1900.

PRESENT STATUS OF INSANITY IN VIRGINIA. Wm. Francis Drewry, M.D. Reprinted from the Medical Age.

REGENERATION OF CRYSTALLINE LENS. By Robert L. Randolph, M.D, Reprint.

REPORT OF COMMISSION OF MEDICAL OFFICERS. Detailed by Authority of the President to Investigate the Causes of Yellow Fever. Paper. Pp. 98. Washington: Government Printing Office. 1899.

SULPHOSALT OF THE ALIPATHIC CREOSOTE-ESTERS, AND ITS THERAPEUTIC USEFULNESS. By Heinrich Stern, Ph.D., M.D., New York City. Reprinted from the Journal A. M. A.

SIXTH ANNUAL REPORT OF THE BOARD OF REGISTRATION IN MEDICINE. January, 1900. Paper. Pp. 72. Boston: Wright & Potter Printing Co. 1900.

TRANSACTIONS OF THE THIRTIETH ANNUAL SESSION OF THE MEDICAL SOCIETY OF VIRGINIA. Held at Richmond, Va., October 24-26, 1899. Paper. Pp. 90. Richmond: J. W. Ferguson & Son. 1899.

THE JOHN CRERAR LIBRARY. Fifth Annual Report for the Year 1899. Paper. Pp. 37. Chicago: Printed by Order of Board of Directors. 1900.

TRADE PAMPHLETS.

ESSENTIALS OF HEMATOLOGY. A Practical Guide to the Clinical Examination of the Blood for Diagnostic Purposes. Illustrated. Paper. Pp. 48. Published by the Palisade Mfg. Co., Yonkers, N. Y.

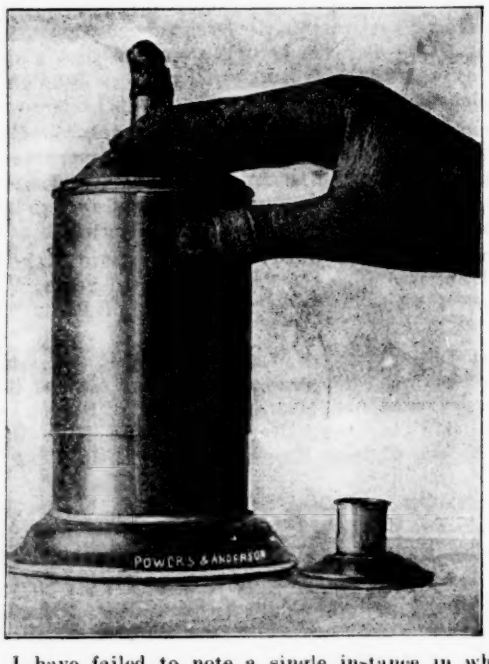
MOSQUITOES AND MALARIA. McKesson & Robbins, N. Y.

New Instrument.

An Aseptic Soap-Container.

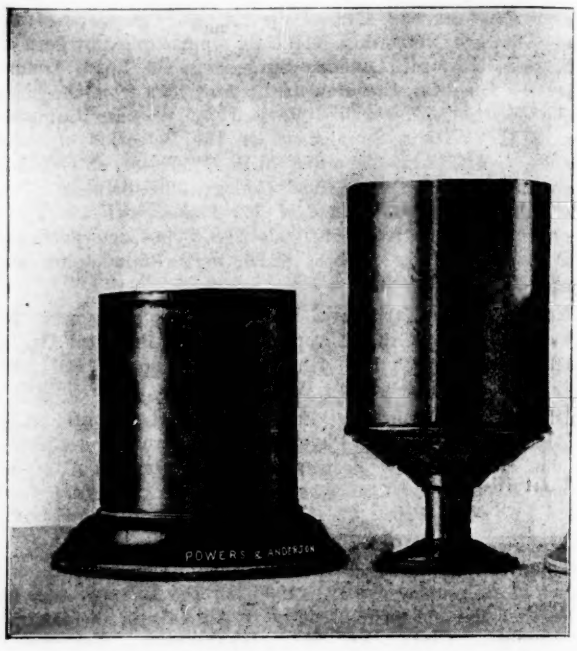
STUART McGUIRE, M.D.
SURGEON IN CHARGE OF ST. LUKE'S HOSPITAL, RICHMOND, VA.

In my personal observation in several leading hospitals, where surgical cleanliness was often carried to the point of sterilizing iodoform and protecting the hands with rubber



gloves, I have failed to note a single instance in which an effort was made to eliminate the possibility of infection from the soap-dish; on the contrary, the universal practice was to have an open jar or bowl of green soap on the washstand, into which the operator, assistants and nurses freely inserted hands soiled from routine work or septic from an operation just completed.

Green soap is readily infected with micro-organisms, particularly those of a pyogenic nature, and the practice referred to was so repugnant to the writer's surgical conscience that he has made repeated but unsuccessful efforts to find a soap-container on the market which would correct the evil. With the aid of Powers & Anderson, instrument makers, of Richmond, Va., he has lately perfected a simple device which, after practical use, has proved eminently satisfactory.



It is made of metal, nickel-plated, and consists of a base or piston, a cup or barrel, and a cap or stopper. The method of operation can be seen by a glance at the accompanying cut. After the container has been filled with soap, it is placed in the sterilizer and subjected to germicidal heat for an hour. When required for use the cap is removed and downward pressure causes the soap to protrude through the opening in the top. The apparatus, as at present manufactured, is 6½ inches in extreme height, and 3 inches in diameter. It is clean, economical and durable.

Societies.

SANTA CLARA COUNTY MEDICAL SOCIETY.—At the meeting of this Society, held in San Jose, Cal., June 20, the following officers were elected: president, J. F. Burns; first vice-president, G. F. Witter; second vice-president, R. W. Payne; treasurer, A. Jayet; secretary, F. La Spada.

SANTA FE MEDICAL AND SURGICAL SOCIETY.—This Society met in Topeka, Kan., June 29. The following officers were elected: president, C. A. McQuire, Topeka, Kan.; first vice-president, W. R. Priest, Concordia, Kan.; second vice-president, J. J. Schuler, Raton, N. M.; third vice-president, H. E. Hastings, Olathe, Kan.; fourth vice-president, G. W. Miel, Denver, Colo.; secretary and treasurer, J. D. Freeman, Topeka, Kan. The next meeting will be held in Denver, Colo., Sept. 26, 1900.

THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION will hold its twenty-sixth annual meeting at Asheville, N. C., on October 9, 10 and 11, under the presidency of Dr. H. N. Moyer, of Chicago. The annual address in medicine will be delivered by Dr. I. N. Love, of St. Louis; that in surgery by Dr. C. A. Wheaton, of St. Paul, Minn. A one-fare rate for the round trip is expected. The Secretary, Dr. Henry E. Tuley, 111 W. Kentucky St., Louisville, Ky., requests that titles of all papers be sent to him within thirty days.

CALIFORNIA NORTHERN DISTRICT MEDICAL SOCIETY.—At the recent meeting of this Society, held in Woodland, the following officers were elected: president, Wm. Ellery Briggs, Sacramento; first vice-president, C. W. Jones; second vice-president, E. W. Hanlon, Marysville; third vice-president, F. W. Carpenter, Grafton; secretary, Arthur Stone; treasurer, O. Stansbury, Chico.

TRI-STATE MEDICAL ASSOCIATION.—This Association, the membership of which is taken from Maryland, West Virginia and Western Pennsylvania, met in Frostburg, Md., June 29. The officers elected were as follows: president, J. M. Miller, Romney, W. Va.; vice-presidents, W. O. McLane, Frostburg, Md.; F. H. Gump, Bedford, Pa.; K. Taylor, Slanesville, W. Va.; secretaries, Frederick W. Fochtman, Cumberland, Md.; Percival Lantz, Alaska, W. Va.; treasurer, H. W. Hodgson, Cumberland, Md. Thirty-five members were present.

OREGON STATE MEDICAL SOCIETY.—This Society met in Portland for its twenty-seventh annual meeting, June 27. Dr. A. M. Phelps, of New York City, was present, read a paper and performed several operations before the society. The following officers were elected: president, W. E. Carll, Oregon City; vice-president, C. J. Smith, Pendleton; secretary, W. F. Amos, Portland; treasurer, Mae H. Cardwell, Portland. A resolution was passed requesting the legislature to create a State Board of Health. Twenty-six new members were added to the Society.

Omaha Medical Society.

Omaha, Neb., May 22, 1900.

STONE IN THE BLADDER.

DR. B. B. DAVIS read a paper on this subject, in which he said that it has been held that an alkaline water-supply and climatic conditions are the chief causes of this condition; but, in his opinion, infection plays the same rôle as it does in the formation of gall-stone. As regards vesical calculi, it is more and more clear that the solid constituents of the urine can not form the nucleous unless preceded by germ action. The chief early symptom is sharp pain at the close of urination. The later symptoms are the occasional presence of blood in the urine, though blood-cells are found with the microscope when there is no gross evidence of blood; cystitis, often with pus in the urine; occasionally, small calculi; cutting pain is referred to a point one inch back of the meatus; the patient often thinks he has a stricture or an ulcer, this opinion being due to the location of the pain; fever, due to infection. The larger the stone the less the pain; and the more stones, the greater the pain; the presence of a large stone causes very frequent urination and exhausts the patient. One point, too often omitted, is the necessity of bimanual examination; in women through the vagina, and in men through the rectum. Theoretically, Bigelow's is the only operation for stone; but practically, the results of a large number of such operations have proved disappointing, for the reason that the operation requires special skill and dexterity. Surgeons in British India, where vesical calculus is very prevalent, use the Bigelow method for soft stone, and perineal or suprapubic cystotomy on those known to be hard.

The first case reported by the author, in 1887, was that of a girl 18 months old. Tenesmus had been noticed for 9 months. The early treatment had been directed toward the rectum, and she had been treated for prolapse and ulceration of the rectum. Dr. Davis dilated the urethra and removed a stone composed of urates, 2⅛ inches in circumference, weighing 75 grains. He was afraid that permanent incontinence would result, but it did not. The second case was that of a man 51 years of age, who, it was thought, had one large and a few small stones, but on operation, sixteen small uric-acid calculi were found, weighing ½ ounce. The third was that of a man of 74, who urinated every five to ten minutes, day and night; pus was present in abundance. A suprapubic operation was performed and the bladder drained through the perineum by a button-hole incision. After removing a phosphatic stone seven inches in circumference, weighing 3¼ ounces, the incision was closed. In the fourth case, that of a man 52 years of age, the same method was used, and a large, rough, jagged stone, composed of lime and mixed salts, 6½ inches in circumference and weighing 2¾ ounces was found in a diverticulum above the prostate. Although the surface of the stone was very rough, blood had been noticed in the urine only twice. He said that the operation is better done by the suprapubic method, especially if there is much infection and pus, with a thickened bladder wall. He has been much pleased with his results in closing the upper incision at once and draining through the perineum; the drainage is perfect and is continued until all cystitis had disappeared. Unless this is done, more calculi will be formed. Frequent irrigation through the drain is practiced. He uses urotropin in 10-gr. doses in a glass of water before meals, in all cases with infected urine, prior to any soundings or operation.

DR. J. P. LORD said that median lithotomy needs more attention than has been given it, and that the suprapubic operation is very formidable for an old patient in bad condition. He is very much inclined to drain as suggested, and is pleased with Halsted's method of doing a suprapubic operation and then submerging the patient in a continuous bath till recovery.

DR. J. E. SUMMERS, JR., was much impressed with the case of the baby, as such cases often mislead because the symptoms do not point in the right direction. He believed that Dr. Davis did the only feasible operation for the patient with the oxalate stone. When he began his surgical work, all the suprapubic patients died. He has done many lateral lithotomies as taught by Little, and heartily approves the closure of the suprapubic incision, and drainage through the perineum.

DR. W. O. BRIDGES said that Dr. Davis was right in urging attention to greater care in diagnosis, as the symptoms are variable and many cases of stone are missed. He had seen many in which neither pain nor blood was present; one seen recently was that of a young man, a masturbator, who had dribbling of urine and wore a urinal. Previous diagnosis had been made of irritability due to masturbation, but he suspected stone and referred the patient to another physician, who found and removed one. Women often have stone without a single symptom except irritability of the bladder. In patients over 50 years of age, examination for stone should never be omitted.

DR. W. O. HENRY thoroughly approved the suprapubic operation with perineal gauze-wick drainage. He called attention to one symptom not mentioned, but important—the sudden arrest of the stream of urine when stone is present.

DR. A. B. SOMERS spoke on the medical aspect of stone. He said that he knew of no drug that would dissolve stone in the bladder. He believed that bacteria are the cause, and that infection starts with the formation of the nucleus. There are few urinary antiseptics; boracic and benzoic acids are useful, but must be taken in large doses, at least 30 gr. in the twenty-four hours; the urine can thus be made acid, and pus kept down, as it thrives in alkaline urine only. Of late he has used urotropin in large doses with very good results.

DR. B. B. DAVIS said, in answer to a question, that precipitation may occur in normal urine, but in aseptic urine it will be so slight that the precipitate will pass out; while it will become entangled in septic urine and cohere into a mass. He has never known of a suprapubic operation on a woman and can see no reason for it, except in case of encysted stone. He does not believe in catheter-drainage through the urethra, as it is too painful, neither does he approve of through-and-through drainage.

COMPLEX MALIGNANCY.

DR. J. E. SUMMERS, JR., and DR. HAROLD GIFFORD presented a patient on whom Dr. Summers had operated ten years ago, removing a sarcoma, lying over the parotid and adherent to the capsule, together with all the glands possible. There had been no recurrence. The dissection was very ample; the facial nerve had been cut, and the parotid tied. Recently Dr. Gifford had found a carcinoma of the limbus of the cornea, which he removed, making thorough cauterization. Still later, he had eviscerated the eye. The patient also had pulmonary tuberculosis.

DR. B. B. DAVIS said that he was very glad to see such a case, as it was useful to counteract the feeling of depression

which comes so often when we think of the results in operating on malignant cases.

DR. HAROLD GIFFORD related the case of a patient with deep cancer of the face, on which he operated ten years ago. He knew he was compelled to leave some cells, but there had been no return. He also recalled a case of glioma of the retina, which he enucleated several years ago, and left large cells. He asked for permission to eviscerate, but was not allowed to do so. The child is still alive and well.

DR. W. R. LAVENDER called attention to the fact that sarcoma spreads through the vessels; when the tumor is removed and the vessels are tied, there is no recurrence. Carcinoma spreads by the lymphatics, and infection easily takes place.

Kings County Medical Association.

New York City, June 12, 1900.

H. Arrowsmith, M.D., President.

POSTERIOR HYPERTROPHY OF THE MIDDLE TURBINATE.

DR. W. H. STEERS presented a specimen of this rather infrequent condition. The patient was 38 years of age, and of good personal history and habits. He had suffered for some time from nasal obstruction. Last January, while under treatment at an institute, a snare was broken off in his nose, and after this several severe hemorrhages occurred. On coming under observation, posterior rhinoscopy showed a round black mass projecting into the rhino-pharynx. After the free use of suprarenal extract, the tissues contracted sufficiently to show a piece of wire, and also some ulcerated spots. Considerable difficulty was experienced in removing the wire from the tissues in which it was imbedded, and when this was finally accomplished, there was such a severe hemorrhage that it was necessary to plug the nose. The hemorrhage recurred twice afterward, and it was not until the tenth day that the tampon could be permanently removed. Notwithstanding this, there was no sepsis, and the only untoward result was a small perforation of the cartilaginous septum. Five days later, there was a sudden recurrence of the bleeding, which terminated fatally. There was no history indicating that the man was a "bleeder."

MERCURIAL PYTALISM FROM INTRAUTERINE DOUCHING.

DR. T. R. MANSFIELD reported the case of a woman who was confined March 18. When he saw her first—about ten days later—there was evidence of septicemia, and she was accordingly given a douche consisting of one gallon of a 1 to 4000 solution of mercury bichlorid. When seen two or three days later, there was excessive pytalism, with swelling of the gums. Mercury had not been used in any other form, and there had been perfect drainage.

DR. T. G. BALDWIN recalled a case in which he had seen pronounced mercurial poisoning, from irrigation with mercury bichlorid, in an operation for ovarian cyst. It was the only case that had come under his observation, but many others had been reported.

DR. E. H. SQUIBB remarked that it was very easy for such tablets to become mixed, so that one might be unconsciously employing tablets of much greater strength than indicated by the label.

DR. VICTOR A. ROBERTSON recalled a fatal case of probable mercurial poisoning occurring in a case of abdominal section at the New York Hospital. It was in the days of the Lister spray and dressings, and bichlorid had been used very freely during the operation for the purpose of irrigating the uterus. The day following the operation the patient developed ptyalism and severe and uncontrollable diarrhea.

BRAIN DISEASE FOLLOWING MASTOIDITIS.

DR. W. S. SHATTUCK reported two fatal cases. The first patient was 4 years of age, and had had chronic suppurative otitis media for two years. On January 15, a fluctuating tumor appeared over the mastoid on the affected side, having been preceded for six or eight weeks by severe and almost constant pain over the mastoid process and along the neighboring muscles. When seen by him, January 19, the canal was filled with thick and offensive pus, the tympanic membrane was nearly destroyed, and there was a large tumor over the mastoid. Operation was resorted to immediately, and revealed necrosis of the bone and an epidural abscess. As nothing pointed to the necessity for further exploration, the wound was packed. For three days, improvement was marked, but on the next day, the temperature began to rise again, and the child became irritable and suffered pain. On January 25, the patient became comatose, and died in a few hours. No autopsy was permitted. The second patient was a man 19 years of age, who was seen on Jan. 4, 1900. He had had for the past ten years a chronic middle-ear disease. On January 8, the temperature rose to 102 F., and there was a fulness in the ear. The man refused operation. He was not seen again until January 12, at which time mastoid tenderness, rapid pulse and elevation of temperature were present. An exploratory operation was done, but no epidural abscess was found. The temperature remained at about 102 F., and he died two or three days later. No autopsy was allowed.

DR. J. SCOTT WOOD said that both of these cases emphasized the desperate nature of this affection and the necessity for early and thorough operation. The second case showed how even a chronic case of very long standing might end fatally. If the patient had consented to the operation when it was first advised his life might have been saved. The mastoid operation is comparatively simple and can be done with but little risk. The fatalities following it are not usually attributable to the operation itself but to the fact that consent has been withheld too long.

DR. A. C. BRUSH said it was peculiar how suddenly the symptoms would make their appearance in many cases of cerebral abscess which had been relatively slow in forming. This report reminded him of three cases of this kind, all of which terminated fatally. He had not met with a single case of this class in which recovery had taken place. This emphasizes the danger of these chronic suppurative processes of the middle ear. If operative treatment is not instituted until the abscess has formed, the prognosis is hopeless.

ANTITOXIN POISONING.

DR. GEORGE A. TREADWELL gave his personal experience as a patient. While attending a case of diphtheria, four years ago, he suddenly developed a severe angina, with membranous exudation. A culture was taken, but without waiting for the result, 1000 units of antitoxin were injected into the abdominal wall, and the next day another dose of the same amount. At the end of thirty-six hours there was temporary improvement, but by the eleventh day, he began to feel weak, and the heart's action was irregular. On the fourteenth day, an urticarial eruption developed all over the body, and pains were felt in the joints. To relieve the eruption, he took ten minims of Fowler's solution in two doses. The result of this was that the symptoms of arsenic poisoning were added to the others, one of the earliest being tetanic contraction of the muscles of mastication. The temperature at this time was 104 F., and movement difficult and extremely painful. There was a sudden fall of temperature, whereupon the pains in the lower extremities were relieved. Then severe diarrhea supervened, characterized by loose, black stools, although no medicine had been taken which should cause such darkening. At the time of the second injection his wife was given an immunizing dose of antitoxin. This was promptly followed by pains in the muscles and joints, and by an urticarial eruption. No diphtheria bacilli were found in her throat and her heart was not affected. It would seem therefore, that the symptoms in both cases were fairly attributable to the antitoxin. He referred to several other cases of antitoxin poisoning that had been reported, but added that in spite of this, his faith in antitoxin remained unshaken. That used in his case was furnished by the Brooklyn Board of Health, at a time when the manufacture of antitoxin was in a comparatively crude state.

DR. LOUIS C. AGER emphasized the fact that great improvement has taken place in the manufacture of antitoxin in the past four years. He said it is quite generally conceded that the heart symptoms in these cases are due to the diphtheria rather than to the antitoxin, and that the cutaneous manifestations are due to the antitoxin, or to some accidental ingredient.

NERVE AND MUSCLE DEGENERATION DUE TO HIGH TENSION ELECTRIC CURRENTS.

DR. A. C. BRUSH reported two cases. The first was that of a woman, who, while attempting to get on a trolley-car on a rainy day, received a severe shock, and was unable to let go her hold on the brass rail. She remembered nothing more until she had recovered, but it was learned that she could not be released until the current was turned off. Following this, she suffered from headache, vertigo, pains in the limbs, and screaming attacks. Her circulation was poor, and there were ulcers on the right ankle. When examined Nov. 22, 1899, there was a decided loss of power in the right arm, and slight loss of power in the left leg. The faradic current produced no contraction in the right arm, and the response to the galvanic current was slow and very painful. The second case was that of a male, 50 years of age, who previous to Feb. 17, 1899, had been in good health, and accustomed to heavy work. On that day, the weather being wet, he received a shock while stepping on a trolley-car, and was unable to release himself until the current was turned off. Since that time, he has had loss of sensation in the lower limbs. The muscles are flaccid and show an absence of faradic response. Microscopic examination of the muscles from both of these cases showed swelling of the muscular fibers, dimness of the striæ, and the presence of fat granules and enlarged nuclei. These patients also presented hysterical manifestations due to the mental shock and fright associated with the accident, but it is evident that there was something more than hysteria, because of the occurrence of atrophy, the abnormal response to the electric current, and the results of microscopic study of the affected muscles. Without a history these cases would have been considered examples of multiple neuritis. Very high tension currents produce coagulation of cell constituents, and even though such a current is not employed on the trolley-wires, the prolonged application might more than counterbalance the moderate degree of tension.

REVISION OF THE UNITED STATES PHARMACOPEIA.

Dr. E. H. Squibb presented an outline of the work accomplished at the convention of 1900 for the revision of the United States Pharmacopeia. He said that, taking into consideration the distance covered by the representation, the attendance of delegates was remarkably good, but the presence of so few medical men was very striking and deplorable. He reported in full the recommendations of the president, Dr. Horatio C. Wood, who made the following suggestions, which were adopted: 1. That the business interests of the convention be divorced from the strictly scientific part of revision by the creation of a board of five trustees, the president of the convention and the chairman of the committee of revision being members *ex officio*. 2. That a constitution and by-laws be adopted, and the convention be made perpetual by incorporation. Dr. Wood was re-elected president, and a revision committee of twenty-five was elected. While it was not surprising that the business body should be made up wholly of well-known pharmacists, it was a matter of both surprise and regret that only six physicians were elected members of the revision committee. The convention adopted a complete constitution and set of by-laws, and directed that the organization shall be known and incorporated under the name of the United States Pharmacopeial Convention. The trustees are not to receive any compensation for their services, but such expenses as are incurred by their attendance at the meetings are to be paid from the funds of the convention. The chairman of the revision committee will be paid a proper salary for his services, and the members of the revision committee and outside experts employed are to be recompensed in accordance with the work accomplished.

A balance of $12,000 was turned over to the new Board of Trustees by the outgoing revision committee after all expenses had been paid. The funds accummulated during the past decade have come almost entirely from the sale of the Pharmacopeia, the publication of which was wisely retained in the hands of the committee.

As the convention was becoming unwieldly, it was resolved that the delegates in future should be selected only from the following organizations: Incorporative from medical colleges and medical schools connected with incorporated colleges and universities; colleges of pharmacy and pharmaceutical schools conected with incorporated universities; incorporated state medical associations: incorporated state pharmaceutical associations; theAMERICAN MEDICAL ASSOCIATION; the American Pharmaceutical Association, and the American Chemical Society, provided that each organization entitled to representation shall have been incorporated within, and in continuous operation in, the United States for at least five years before the time fixed for the decennial meeting of this convention. Further, it shall consist of delegates appointed by the surgeons-general of the United States Army, United States Navy, and United States Marine-Hospital Service.

The actual work of revision is to be largely conducted through circular correspondence—a plan which has been so effectively carried on for the past ten years by Charles Rice, Ph.D., who was re-elected chairman of the revision committee. It took two years to accomplish the last revision, but owing to the chairman's familiarity with the work to be done, this time may be shortened somewhat for the forthcoming book. He urged on the medical profession in general to take a greater interest in this standard book, and said he was confident that he voiced the wishes of the whole committee in stating that any recommendations would be gladly received and given due consideration.

For more detailed reference to the work of the committee on revision, see THE JOURNAL, vol. xxxiv, p. 1506.

Minnesota State Medical Society.

Thirty-second annual meeting, Duluth, June 27-29.

President Dr. Walter Courtney, Brainerd, in the chair.

VALUE OF THE NEWER SIGNS AS AIDS IN DIAGNOSIS.

DR. GEO. H. HEAD read a paper on the value of the newer signs and procedures as aids in diagnosis. He spoke more particularly of: 1. Koplik's spots in early diagnosis in measles; 2. Quincke's puncture in cerebrospinal meningitis; 3. Justus test in syphilis. In three hundred cases, 50 per cent. verified the test, there being a sudden fall in hemoglobin to 10 to 20 per cent. after giving mercury. In the primary stage the test was not definite, in the tertiary stage there was some reaction, but it was most definite in the secondary stage. It is not present in normal individuals. 4. Kernig's sign in cerebrospinal meningitis. In an analysis of 156 cases this test was positive in 84 per cent. It was not present in healthy individuals, but present in some brain lesions other than pure meningitis. 5. Litton's diaphragmatic phenonoma, which were present in a large percentage of healthy individuals, but absent in pleural effusions more especially. 6. Baginski's reflex in disease of the pyramidal tract; this reflex is the earliest to appear. He also spoke of the Widal reaction in typhoid fever; the leucocyte-count in all cases; the tuberculin reaction; eosinophilia in trichiniasis and the bacteriology of the blood and blood examinations. He urged greater care and more rigid examination of patients and that particular attention be paid to these new signs in diagnosis—for only in this way can the symptomatology of disease be verified.

EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.

DR. JNO. W. BELL, Minneapolis, read a paper on this subject, in which he laid particular stress on the sum total of the symptoms, as no one symptom in itself was sufficient for a diagnosis; the tubercle bacilli being found often too late, and in some cases not at all. He spoke of the tuberculin reaction emphasizing the danger as routine.

DR. C. L. GREENE, St. Paul, spoke of the X-ray in incipient tuberculosis, saying that he used it as a routine measure in every suspicious case, and it had proved to be most satisfactory.

DR. CHARLES HUNTER, Minneapolis, said that the tuberculin reaction was most necessary in the early diagnosis of tuberculosis and was not dangerous.

ANTISTREPTOCOCCIC SERUM.

DR. CHARLES HUNTER, Minneapolis, in a paper on this subject reported that his cases had not proved favorable to the antistreptococcic serum, but that as all cocci have their own toxins, this may account for the negative results. The success attending the use of diphtheria antitoxin has demonstrated that serumtherapy is on the right track.

CARDIAC DILATATION.

DR. A. N. STINCHFIELD, Rochester, read a paper in which he discussed the etiology, pathological changes, prognosis, diagnosis, and treatment, particular emphasis being laid on hard work, syphilis and alcohol as causal factors.

BACK TO MEDICINE.

DR. A. F. CONLEY, Cannon Falls, in the above-mentioned paper, spoke of how internal medicine had been at a standpoint during the last ten years, great advances having been along surgical lines and in the specialties, and claimed that the profession at large was losing sight of the great field of internal medicine.

DR. CHARLES GREENE, St. Paul, said he disagreed with the author; that medicine had made and was making great advances, and cited the diphtheria antitoxin as an example.

DR. BURNSIDE FOSTER, St. Paul, reported cases of pemphigus which had come under his observation.

RABIES IN MINNESOTA.

DR. F. F. WESTBROOK read a paper on this subject in the section on pathology, in which, after tracing the origin, causes and methods in arriving at a diagnosis, he said he had collected forty-six cases of rabies in the state, as follows: St. Paul, 13 cases, 8 positive; Minneapolis, 8 cases, 5 positive; Montevideo, 5 cases, 3 positive; etc. Four cases were observed in human beings, and 1 case each in a horse, sheep, pig and wolf. He concludes that rabies exists in the State of Minnesota, but that it is very widely distributed and not dangerous, and that there have been enough cases reported, that it should be recognized early.

PROPHYLAXIS OF OPHTHALMIA NEONATORUM.

DR. FRANK C. TODD, Minneapolis, read a paper in the section of diseases of children, on this subject, and said that with the single exception of atrophy of optic nerve this was the most frequent cause of blindness. He urged as a routine practice the use of the 2 per cent. silver nitrate solution as used originally by Credé. In conclusion he suggested the following rules: 1. Whenever possible and practicable the head should be delivered without puncturing the membrane. 2. In all suspicious cases born in public hospitals the Credé method, including the use of 2 per cent. silver nitrate solution, should be practiced. 3. In all cases, when the Credé method is not practiced, the eyelids and face should be mechanically cleansed with an aseptic solution, and one or two drops of a 5 per cent. protargol solution be dropped between the open lids. 4. When the disease appears in one eye, the other should be immediately protected by a shield, or, if this can not be procured at once, by any kind of a clean covering that will prevent infection of the well eye.

CHRONIC INDIGESTION.

DR. C. A. KELSEY, Minneapolis, read a paper in which he dealt particularly with the causal factors, diagnosis and treatment of chronic indigestion. In the treatment, he laid special stress on nux vomica as a curative agent. In the discussion nearly every drug, together with lavage, was suggested as a remedy, but no definite conclusions were reached.

TREATMENT OF PENETRATING WOUNDS OF THE CHEST.

DR. J. H. DUNN, Minneapolis, read a paper in the surgical section, on this subject, in which he considered stab and bullet wounds more especially. He said the great point in treatment was to know when to go ahead. In the vast majority of cases, after investigation, no treatment was required except fixing the side with adhesive plaster, absolute rest, and watchful expectancy. He deprecated most strongly the indiscriminate use of the probe, and mentioned how seldom foreign material, such as parts of the clothing, are found in such wounds.

DR. CHARLES A. WHEATON, St. Paul, stated that the reason why foreign material was not found in the wound was because of the velocity of the bullet in case of gunshot wounds.

SIGNIFICANCE OF BLOOD-COUNT IN SURGICAL DIAGNOSIS.

DR. A. J. COEY, Chicago, pointed out the great value of the blood-count as an aid in the diagnosis of surgical diseases and urged its more extensive employment. Blood examinations, when properly and systematically made, are of inestimable importance to the surgeon as an aid in differential diagnosis. Leucocytosis is as certain to be found in cases of inflammation and suppuration as are rapid pulse and high temperature in pneumonia. It has been stated that the uselessness of blood examinations is definitely proved, because occasionally an inflammatory condition exists without leucocytosis. Similarly, the practitioner might be expected to disregard the physical signs of pneumonia if the patient had a pulse of 80, a temperature of 98.4 F., and did not have rusty sputum. In cases of suppuration, the increase of white blood-corpuscles is proportionate to the intensity of the inflammation. As the inflammation disappears, there is a gradual diminution of the leucocytes which may be present in subnormal amount at the time of convalescence. In obscure suppuration and especially in pus collections in the peritoneal cavity, blood examination is of the greatest diagnostic value. In malignant disease, leucocytosis is usually observed. The absence of leucocytosis in uncomplicated cases is, therefore, indicative of typhoid fever, tubercular peritonitis, gall-stone or renal colic, intestinal obstruction, fecal impaction, neuralgia, etc. Appendicitis furnishes the most marked example of the value of the blood-count as regards the decision to operate or not to operate. Cases of purely catarrhal appendicitis rarely present a leucocytosis. Given a case of a patient with pain in the region of McBurney's point and a stationary or increasing leucocytosis, that case is one for imperative, immediate surgical interference, whether other symptoms and signs be present or absent. A steadily increasing leucocytosis must always be considered as a bad sign and as demanding prompt operation. In septicemia and pyemia the leucocyte count is about on a par with the count in appendicitis. Streptococci and staphylococci may frequently be found in blood cultures in many forms of infection. In surgical diseases leucocytosis with a rise in temperature would exclude hysteria and mental worry. In osteomyelitis and all abscess formations, pure cold abscess alone excepted, there is always a high leucocytosis.

COMMISSION BUSINESS IN MEDICINE.

DR. C. L. GREENE, St. Paul, read a paper entitled "A Problem in Ethics," in which he spoke of the commercial spirit of the profession as progressing. He dealt more particularly with the "commission business" that exists between doctors, cited cases, and said he had numerous proofs in his possession of this condition which would involve some of the best known men in the profession. He then presented resolutions to the effect that a committee of five should be appointed from the state medical society to investigate this matter; that every case should be reported to this committee, the proof obtained, and that upon conviction such members should be expelled from all societies, local and state, and should be reported to the AMERICAN MEDICAL ASSOCIATION. In the discussion that followed everyone was most enthusiastic over the resolutions, but only one side was represented.

THE LYMPH NODE AS A FACTOR IN DIAGNOSIS.

DR. CHARLES A. WHEATON, St. Paul, spoke of the lymphatic system as the custodian of the system in a great many diseases, comparing the lymphatic glands to the policeman. He dealt more especially with tubercular glands of the neck, deprecating their wholesale enucleation. He said in the past he had operated on a great many tubercular glands of the neck, but in the future such operations would be far less frequent. When it is decided to operate on a selected case, complete enucleation is the only surgical procedure. He also spoke of the glands of the axilla and neck in carcinoma of the breast and cited a case in which he had removed the breast and the glands of the axilla on one side, but four months later a recurrence of the tumor in the other breast took place with enlargement of the axillary glands and the glands on both sides of the neck. He decided that in this case, the breast and glands should not be removed, as the involvement was too extensive.

DR. C. H. MAYO, Rochester, differed from Dr. Wheaton in his conservative operation for tubercular glands of the neck, saying he had operated on about 360 cases and that the results justified the procedure.

DR. F. A. DUNSMOOR, Minneapolis, also urged operative procedure, because of the liability of the glands to break down and also because of the unsightly appearance.

DR. F. C. DAVIS, Minneapolis, spoke of the microscopical findings in the glands of axilla and neck in cancer of the breast.

DR. WALTER COURTNEY, Brainerd, read a paper on "The Value of the Two-Stage Method of Suprapubic Cystotomy in Selected Cases."

DR. C. H. MAYO, Rochester, presented an article on "Varicose Veins of the Leg." He spoke of the causes, prophylaxis and surgical treatment in these cases, and reported the results of operations made by him.

At the business meeting the number of sections was reduced to three: 1, Surgical, J. W. Andrews, Mankato, chairman; 2, Practice of Medicine, T. A. Nippert, Minneapolis, chairman; and 3, State Medicine, Hygiene and Medical Jurisprudence, H. S. Fullerton, Minnesota Lake, chairman. Fifty-six new members were elected. St. Paul was selected as the next meeting place, in June, 1901, a few days before the meeting of the AMERICAN MEDICAL ASSOCIATION. Resolutions were presented by Dr. Taylor, of St. Paul, and adopted, recommending that tubercular patients be isolated and taken care of by the state, like those suffering from other contagious diseases.

The following officers were elected: president, Wm. Davis, St. Paul; first vice-president, H. B. Pritchard, Winona; second vice-president, Mary Whetstone, St. Paul; third vice-president, H. B. Allen, Cloquet; secretary, Thomas McDavitt, St. Paul; treasurer, R. J. Hill, Minneapolis; censors, F. A. Dunsmoor, Minneapolis, and Walter Courtney, Brainerd; delegate to Washington, to meeting of Commission on National Legislation of the AMERICAN MEDICAL ASSOCIATION, Arthur Sweeney, St. Paul, Minn.

Philadelphia Pathological Society.

June 28, 1900.

President Dr. F. A. Packard in the chair.

CIRRHOSIS OF LIVER.

THE PRESIDENT presented a specimen of extreme cirrhosis of the liver. The patient was a man aged 86 years, who gave a history of having been addicted to the use of enormous quantities of bitters, largely composed of alcohol. The abdomen had been swollen, with edema of the lower extremities. The urine contained blood and casts and the lungs showed congestion. At the autopsy, the visceral layer of pleura contained white pearly bodies showing evidences of new adhesions, the stomach and duodenum were much congested. The liver was of the typical hob-nailed variety. Irregular bands of fibers were seen by the microscope. The blood-vessels were dilated; the gall-bladder was small and contained 15 gall-stones; the pancreas was fibrinous, one kidney was cystic; there were no changes in the pericardium.

DR. DAVID RIESMAN spoke of a patient with cirrhosis of the liver who had suffered from gastric hemorrhages. There had been no edema, and death ensued from pneumonia. In this case the pericardium was adherent.

DR. ALBERT WOLDERT referred to a case seen at the Howard Hospital, in which all the classical symptoms of gall-stones had been present, with deep jaundice, pain in the right hypochondrium, gall-stone colic, etc. The patient went to another hospital and her ailment was thought to be gall-stone. She became steadily worse and an exploratory incision was made. The gall-bladder was normal in size and contained no gall-stone. It was found that she was suffering from Charcot's liver. The wound was closed. Her condition was believed hopeless, and she left the hospital, six weeks later, as she thought, to die. She commenced to improve, however; all jaundice disappeared, and two months later she was as well as ever.

THE PRESIDENT said that he had seen the case. He could not help believing that there had been a small gall-stone or plug of mucus which had occluded the mouth of the common duct, and which possibly had been removed by increased peristalsis following the operation. He offered this as an explanation of the benefit which is sometimes seen to follow exploratory operations in such cases.

ENDOTHELIOMA OF LUNG.

DRS. W. E. HUGHES AND J. D. STEELE presented a specimen of endothelioma of lung and retroperitoneal lymphatic glands. The patient, a woman 69 years of age, began to fail six months ago, and later edema of the lower extremities occurred. At times there was marked cyanosis. Dulness was present on the left side of the chest with crackling râles. On the right side evidences of tuberculosis were noticed. At the autopsy, the right lung was found to be studded with grey nodules with areas of caseation, and at the base of the left lung three nodules were found. An aneurysm of the thoracic aorta was discovered which during life had given rise to the dulness in this region. At the bifurcation of the abdominal aorta enlarged lymph-glands were found, which he did not believe were tuberculous. On microscopic examination, it was found that the growths were endotheliomatous. In his opinion, the primary seat of the disease had been in the apex of the right lung. The growths in the lungs were typically those of tuberculosis.

DR. DAVID RIESMAN spoke of a case in which there had been gradual emaciation with scattered areas of dulness over the chest. At the autopsy, carcinoma of the lung was found, certain areas of which had undergone caseation, and were tuberculous.

ABSCESS OF THE LIVER.

DR. DAVID RIESMAN reported the case of a Belgian, 52 years of age, who had been operated upon two years ago for an abdominal affection—probably appendicitis. In March of the present year he suffered from diarrhea with hemorrhages, but had not tenesmus. In April he had another attack, and was later admitted to the Philadelphia Hospital. The abdomen was enlarged and presented the shape of a flattened cylinder. Liver dulness began anteriorly in the fourth, and posteriorly in the ninth, interspace, and extended to the umbilicus and even to the left of this region. The diagnosis was made of abscess of liver or pyothorax. An aspirating needle was inserted in the seventh interspace and five pints of reddish-brown or chocolate-colored fluid withdrawn. The specific gravity of the fluid was 1037; it was sterile and had a neutral reaction, and contained crystals of hematoidin. No ferment seemed to be present, and the ameba coli could not be found. Through the kindness of Dr. Simon Flexner, he presented specimens of ameba coli obtained from a case of dysentery seen in the Philippine Islands. It was stained in the liver tissues by Mallory's latest stain of thionin.

DR. F. A. PACKARD stated that there were no physical signs pathognomonic of abscess of liver. One which he regarded as very comman was the appearance of the abdomen, which usually was that of a flattened cylinder. He referred to a case of abscess of liver which he had seen several years ago, in which he had found in the pus certain reniform bodies with pale protoplasm and deeply staining nuclei. These bodies resembled protozoa, but he had never been able to determine their exact nature.

CARCINOMA OF PANCREAS.

DR. W. E. HUGHES presented two specimens of the liver and adjacent viscera. One was a carcinoma of the pancreas which caused occlusion of the biliary duct, the other was a carcinomatous change occurring in the duodenum, probably resulting from a duodenal ulcer. In both cases it was found on autopsy that very gentle pressure would cause the bile to flow from the common duct. Both patients had been deeply jaundiced. A gall-stone was present in one case. In the carcinomatous pancreas there had been no metastasis.

DR. GIDDINGS presented sections from the head and tail of the pancreas. The absolute condition was not quite clear.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), June 30.

1 *Concerning the Peritoneum and Treatment of Exudative Peritonitis. Albert A. Berg.
2 *Treatment of Typhoid Fever. D. E. English.
3 *Uselessness of Pituitary Body as a Therapeutic Agent. William M. Leszynsky.
4 Preliminary Note on a Simple and New Method of Repeatedly Sterilizing Sponges by Boiling. Charles A. Elsberg.
5. Reminder for the Care of Children During the Summer. S. Henry Dessau.

Philadelphia Medical Journal, June 30.

6 *Questions of the Day in Medicine. J. M. DaCosta.
7 Angina Pectoris. (Concluded.) Clifford Allbutt.
8 *Especial Hospitals for Consumption Among the Poor in Our Cities. Edward O. Otis.
9 *A New Pathogenic Mould. W. Ophüls and Herbert C. Moffit.

Boston Medical and Surgical Journal, June 28.

10 *Study of Twenty-four Cases of Typhoid Fever with Symptoms of Peritoneal Infection; Laparotomy. George B. Shattuck, J. Collins Warren and Farrar Cobb.
11 *Separation of Epiphysis of Olecranon. F. J. Cotton.

New York Medical Journal, June 30.

12 *Influenza in Children. Herman B. Sheffield.
13 *Are There Veritable Valves in the Rectum? Wm. Bodenhamer.
14 Treatment of Puerperal Infection. J. B. Killebrew.
15 *Formalin as an Antiseptic in General Surgery, Gynecology, and Obstetrics. G. E. Crawford.
16 Closure of Cleft Palate by Lingual Implantation; A Preliminary Report. Carl Beck.
17 *Laryngeal Manifestations of Typhoid Fever. Lorenzo B. Lockard.
18 *Rôle of Purulent Rhinitis of Childhood in the Production of Atrophic Rhinitis. Richmond McKinney.

Medical News (N. Y.), June 30.

19 *Prevention of Dystocia Due to Fetal and Pelvic Disproportion. Edward A. Ayers.
20 *Treatment of Tumors Complicating Pregnancy. Brooks H. Wells.
21 *Indications for Premature Delivery, with Special Reference to Eclampsia and the Pre-eclamptic State. S. Marx.
22 *When is it Proper to Interfere in Apparently Difficult or Delayed Cases of Labor, Especially in Primiparæ. Malcolm McLean.

Cincinnati Lancet-Clinic, June 30.

23 *The Frenkel Treatment of Locomotor Ataxia. David I. Wolfstein.
24 *Treatment of Hemorrhoids. George J. Monroe.
25 Walker-Gordon Method of Feeding. W. H. De Witt.

American Gynecological and Obstetrical Journal (N.Y.), June.

26 *Management of Pregnancy Occurring in Connection with Myofibromata of the Uterus. A. J. C. Skene.
27 *Intestinal Anastomosis: Clamp and Enterotome: A Modification of Grant's Enterotome: an Aid in Suturing. Alexander H. Ferguson.
28 Cancer of Uterus. Willis E. Ford.
29 *Placental Transmission. W. A. N. Dorland.
30 Principles and Most Rational, Innocent and Effective Methods in Treatment of Pathologic Retroversions and Retroversio-Flexions of the Uterus. A. Goldspohn.
31 Personal Reminiscences Associated with Progress of Gynecology. (Continued.) Thos. A. Emmet.

Western Medical Review (Lincoln, Neb.), June 15.

32 President's Address Before Nebraska State Medical Society. Robert McConaughy.
33 *Leucocytes as a Factor in Surgical Diagnosis. John P. Lord.
34 *Medical Legislation in Nebraska. H. Winnett Orr.
35 Pelvic Abscess. P. Hyrup-Pedersen.
36 Contribution to Surgery of the Common Bile Duct: Report of Case of Choledochenterostomy. John E. Summers. Jr.
37 Modern Business Methods for the Medical Profession. W. A. Jolley.

International Medical Magazine, (N.Y.), June.

38 Abdominal Operation for Multiple Uterine Fibroid; Tubal Disease and Pregnancy. (Concluded.) E. E. Montgomery.
39 *Co-operation of Physician and Surgeon in Abdominal Practice. A. L. Benedict.
40 *Hay-Fever—Its Preventive Treatment. W. C. Hollopeter.
41 Eclampsia. John C. Hirst.
42 Uranalyses and Their Value in Autointoxication. H. Brooker Mills.
43 Obstructive Disease of Urethra. (Concluded.) J. D. Thomas.
44 Varieties, Localization and Symptoms of Cancer of Stomach. Boardman Reed.
45 Remarks on Fistula and New Angular Grooved Director. Samuel G. Gant.
46 Some Diseases of Ear in Children. (Concluded.) George C. Stout.

Medical Sentinel (Portland, Ore.), June.

47 Psycho-Therapy: or the Medical Aspect of Hypnotism. H. A. Castle.
48 Notes on Case of Extra-Uterine Pregnancy. E. P. Geary.
49 An Interesting and Uncommon Case. L. P. McCalla.
50 Hypertrophy of Prostate Gland. Wm. O. Spencer.
51 Case of Suppurative Otitis Media Treated by Fumes of Iodoform. F. C.Lewis.

American Medical Quarterly (N. Y.), April.

52 *Nature of the Cancerous Process and the Cancerous Cachexia and the Relation of Local Irritation to Each. Roswell Park.
53 Treatment of Cancer of Cervix of the Uterus Complicated by Pregnancy. George Ben Johnston.
54 *Indication for and Election of Operation for Uterine Myomata. Edward J. Ill.
55 *Relation of Pregnancy to Nervous Diseases. James W. Putnam.
56 *Notes on Prostatectomy. Paul Thorndyke.
57 Treatment of Epilepsy in its Incipiency. Wm. P. Spratling.
58 Limitation of Operative Gynecology. John Blair Deaver.
59 Superstition and Science in Medicine. Charles A. L. Reed.

Kansas City Medical Record, June.

60 Urinary Disturbances. H. C. Crowell.
61 Case of Charcot's Disease. S. Grover Burnett.
62 Variola. J. L. Harrington.

Medical Age (Detroit), June 10.

63 *Impetigo Adenosa. N. E. Aronstam.
64 Therapeutic Suggestion. James B. Bullitt.
65 Treatment of Squint. Edward J. Brown.

Fort Wayne Medical Journal-Magazine, May.

66 Indications for Enucleation of Eyeball. Albert E. Bulson, Jr.
67 Stricture of an Anterior Urethra and Its Treatment. Henry A. Klussman.

Western Clinical Recorder (Chicago) May.

68 *Chronic Deforming Polyarthritis. Frank X. Walls.
69 Remarks on Differential Diagnosis of Acute Diseases of the Lungs. Everett J. Brown.
70 Examination of Stomach Contents as a Guide to Treatment. J. H. Salisbury.
71 Interstitial Pancreatitis in Congenital Syphilis. A. P. Condon.
72 Notes on the Indications for Operation in Old Lacerations of the Peritoneum. Thomas J. Watkins.

Oklahoma Medical Journal, June.

73 Anti-Antitoxin. W. M. Hatfield.

Therapeutic Gazette (Detroit, Mich.), June 15.

74 Progress in Therapeutics. Solomon Solis-Cohen.
75 Galvanism in Treatment of Sciatica. Frank H. Allen.
76 Report of Interesting Cases with Remarks—1. Sclerous Infiltration of the Corpora Cavernosa. 2. Marked Atrophy of Testis Following Gonorrheal Epididymitis. Abraham L. Wolbarst.
77 Experience with Tannigen. Charles M. Clark.
78 Treatment of Croupous Pneumonia. J. B. Norman.
79 Copy Formula on Label. B. Franklin Stahl.
80 Case of Tetanus Treated with Antitoxin. H. L. Van Natta.

Alabama Medical Journal, June.

81 *Venereal Hygiene of the Future. E. H. Sholl.
82 Inversion of the Uterus, with Report of a Case. J. M. Mason.
83 Chronic Interstitial Nephritis: Etiology, Pathology, Symptoms, and Diagnosis. Edgar A. Jones.
84 *Malarial Phenomena without the Agency of Mosquitoes. H. A. Moody.

Medical Fortnightly (St. Louis), June 11.

85 Malaria—Sequelæ and Complications. Charles D. Center.

Journal of Medicine and Science (Portland, Me.), June.

86 Clinical Examination of Stomach Contents as Means of Diagnosis. Bertman L. Bryant.
87 Reminiscences of Old-time Portland Surgeon. C. W. Stockman.
88 Report of Case of Placenta Previa Complicated by a Transverse Presentation. Erving A. Libbey.

Canadian Practitioner and Review (Toronto), June.

89 *Gasoline as Surgical Detergent. Bruce L. Riordan.
90 Posterior Positions of Occiput. K. C. McIlwraith.
91 *Use of Ergot in Obstetric Practice. Chas. J. C. O. Hastings.
92 *Notes on Chloretone. R. D. Rudolf.

Pediatrics (N.Y.), June 1 and 15.

93 Addresses Delivered at Banquet Tendered Dr. Abraham Jacobi on His Seventieth Birthday. Joseph D. Bryant, R. U. Johnson, Wm. H. Thomson, William Osler, Seth Low, Carl Schurz, Arpad G. Gerster.
94 Abraham Jacobi, Medicus, Magister, Amicus. S. Weir Mitchell.
95 Address. A. Jacobi.
96 *Dangerous Communicable Diseases, How Spread, Together with Some Suggestions as to their Restriction. M. K. Allen.
97 *Some Remarks on Three Symptoms of Rickets. W. N. Berkeley.
98 Foreign Bodies in the Air-Passages. J. Morrison Ray.
99 Case of Pneumonia in Baby Six Weeks Old. Abraham Goltman.

Atlanta Journal-Record of Medicine, June.

100 *Brain Traumatisms. Howard J. Williams.
101 Management of Acute Diarrheas of Infancy. Gilman P. Robinson.
102 Hemorrhage Occurring After the Menopause. E. C. Davis.
103 *Typhoid Fever, with Report of Cases. W. B. Hardman.

Denver Medical Times, June.

104 *Effects of the Climate of Colorado on Sleep. J. T. Eskridge.
105 Gastroenterostomy for Dilatation of the Stomach—With Report of Case. G. E. Tyler.
106 Preventive Therapeutics. Julia S. Kapp.

Pacific Medical Journal (San Francisco), June.

107 Some Observations on Causes and Nature of Dipsomanianism. P. C. Remondino.
108 The Genesis, Structure and Function of the Nervous System. L. W. Stidham.
109 High Degrees of Astigmatism. W. S. Fowler.
110 Errors and Accidents. Henry J. Kreutzmann.
111 Holocain: Its Preparation, Action, and Uses. Louis C. Deane.

Texas Medical Journal, June.

112 *Stone in the Bladder in Lithotomy. F. Paschal.
113 Traumatic Surgical Conditions of the Bladder and Treatment. W. A. Duringer.

St. Louis Medical and Surgical Journal, June

114 An Epidemic of Impetigo Contagiosa. A. H. Ohman-Dumesnil.
115 Relation of the Anesthetizer, Patient and Operator. D. C. Moriarta.
116 Diabetes Mellitus. Wm. Henry.

Medical Mirror (St. Louis, Mo.), June.

117 Car Sanitation and Railway Surgery. W. W. Grant.
118 *Tuberculosis in Children. W. E. Risinger.
119 *Appendicitis from a Medical Standpoint. I. N. Love.
120 Dr. W. W. Keen, President of the AMERICAN MEDICAL ASSOCIATION for 1900. I. N. Love.
121 Dr. J. M. Allen, Vice-President of the AMERICAN MEDICAL ASSOCIATION. I. N. Love.

Columbus Medical Journal, June.

122 Practice of Medicine and Surgery in the Higher Altitudes. R. Harvey Reed.
123 Bubonic Plague. George M. Clouse.
124 Professional Ideals. W. O. Thompson.

Annals of Gynecology and Pediatry (Boston), June.

125 *Surgical Treatment of Primary Renal Tuberculosis, with a Consideration of Results Obtained by Operation. Otto G. Ramsay.
126 Progress in Surgery, 1899-1900. B. F. Kingsley.
127 *A Discussion of Walcher Posture. R. E. Cutts.

Bulletin of the Johns Hopkins Hospital (Baltimore), June.

128 *Notes on the Plague in China and India. Joseph Marshall Flint.
129 *A Study of "Christian Science." Harry T. Marshall.

Merck's Archives (N. Y.), June.

130 *Aqueous Extract of the Suprarenal Gland. Lewis S. Somers.
131 *Hypnotic Action of Apomorphin without Nausea. Charles J. Douglas.
132 *Dionin in the Treatment of Coughs. J. W. P. Smithwick.
133 Therapeutic Study of Iodin. (To be Continued.) A. G. Minshall.
134 Treatment of Bronchopneumonia. William F. Cheney.
135 Suggestions Regarding Management of Cases of Intraperitoneal Surgery. Clinton Cushing.
136 Modern Methods of Recognizing the Presence of Foreign Bodies in and Around the Eye with Demonstration of Apparatus and Specimens. A. Barkan.

Medical Summary, June.

137 Uricacidemia, Hay-Fever and Asthma. Wm. R. Lowman.
138 Points of Observation. J. N. Lee.
139 What Should We Think Out for the Benefit of Our Patients? A. B. Woodward.
140 Treatment of Incontinence of the Urine—Clinical Reports. Robert C. Kenner.
141 Does Quinin Produce Hematuria? Ben H. Brodnax.
142 Bronchial Asthma. C. A. Harding.
143 What Hypnotic Shall We Use? J. J. Caldwell.
144 Biochemistry. C. C. Edson.
145 *Vaccination—A Correction.

AMERICAN.

1. **Exudative Peritonitis.**—Berg concludes from the data which he has at his command that bacilli alone, except when in very large quantities, are not sufficient to produce exudative peritonitis. This immunity of the healthy peritoneum to the deleterious action of bacteria is due to its very rapid resorptive power, and this resorption, under normal conditions, is mainly by way of the blood-vessels, and is an active, and not a passive cellular process. It is manifested in the diseased as well as the healthy condition, but in somewhat lessened degree. The more marked the disease, the greater the interference with this activity; it is least when the peritoneal epithelium has been considerably altered, and ceases altogether with the destruction of these cells. These conclusions are of importance in connection with the question of drainage of the peritoneal cavity. By virtue of its rapid resorptive power, primary bacterial peritonitis is not a possibility unless the bacteria are present in such numbers as to paralyze the peritoneal cells and hinder resorption. There must be some factor interfering with the cellular activity, of the cells favoring a sedimentation of the bacteria with their consequent further growth and development. These factors may be mechanical, such as gauze packing or drainage-tubes, etc., or chemical, either organic or inorganic in character. He gives his theory as to the character of peritonitis and the element of toxemia or absorption of bacterial toxins on which the severity of the case depends. These toxins should be treated by neutralization, using the chief excretory channels—the kidneys. This is accomplished best by frequent infusions of saline material into the circulation. If bacteriemia as well as toxemia exists, therapeutic procedures are of little value, and he has had but little good from bactericidal sera in these cases. In the treatment of exudative peritonitis *per se*, the chief aim should be to injure the organs as little as possible, but when the trouble is the direct result of a local disease, like appendicitis, an operation must be made to remove the cause. He thinks the use of soft mops for removing the exudate is the best method, except when large masses of fibrin are present, which can be washed out, or when the exudate is of a thick, creamy consistency and spread out among the intestinal coils in all directions. In these cases, irrigation is better than mopping. As long as the peritoneum is functionally active, drainage is superfluous and objectionable. When, however, the resorptive powers of a region are lost, then this part of the area must be drained. He believes that there is less danger from early catharsis than there is from absorption of toxins due to stagnation, and that when the indications of intestinal distension are manifested, catharsis should be employed as soon as possible. He recapitulates the plan of treatment that has given him the best results as follows: Celiotomy, the site of the incision depending on the cause of the peritonitis; removal of the acting cause; if the intestine is very much distended, incision of one of the most distended coils and evacuation of its contents; suture of the bowel if its muscular wall is not paralyzed, otherwise drainage of the proximal end of the bowel; removal of the exudate from the free peritoneal cavity by moist sponges; protection of all raw spaces or modified peritoneal surfaces by gauze; closure of the rest of the abdominal wound; in addition the general systemic treatment for the toxemia and bacteriemia, as outlined in the paper.

2. **Treatment of Typhoid.**—The indications for treatment given by English are: 1. To empty the gut of all infected matters as soon as possible; for this, he prefers calomel. 2. To render it as nearly as possible uninhabitable by microbes. While intestinal rest is highly desirable, the bowels may be moved once or twice every twenty-four hours, and for this he uses podophyllin, which increases the flow of bile and thus promotes intestinal antisepsis, the bile being the natural antiseptic. 3. To keep the intestines as aseptic as possible, his favorite drug for this being carbolated camphor. He takes 1 ounce of carbolic acid and 3 ounces of camphor gum, allows it to stand for a short time, and keeps it in an air-tight vessel, adding a little camphor to keep it from evaporating. He gives this in 10 and 12 drop doses every two hours for forty-eight hours, until there is some change in the color of the urine, and then diminishes the dose, but does not entirely discontinue it until advanced convalescence. 4. To neutralize the absorbed poison and to expel it from the body, water is the best agent, as large and frequent draughts of sterile water have a diluent, a diuretic and a diaphoretic effect. 5. To keep the temperature down, he has employed the following formula, given every one or two hours for five or six doses:

℞ Acetanilid ..... gr. iii
Camphoræ monobrom.
Caffeinæ citratis, āā ..... gr. ss
M. Sig. At a dose.

In order to prevent over-action of the intestines and the heart and promote physiologic rest, he keeps the patient quiet and gives turpentin, if another remedy than carbolated camphor seems indicated. If it becomes necessary to check the bowels, which is seldom the case, he uses small doses of Dover's powder. When the pulse is rapid and soft, small doses of tincture of digitalis, about 5 minims in a dram of whisky, may be given every twenty-four hours. This should be used with care, however, in the early stages. The patient should use a bed-pan and urinal and be cautious about moving a muscle unnecessarily. 7. To support the strength of the patient, he thinks dissolved beef made after the Weir Mitchell formula is valuable.

℞ Acidi hydroclor., c. p. ..... ℥i
Aquæ dest., ad ..... ℥i
M. Sig. One teaspoonful to a pint of water for making beef tea.

To prepare the beef for the patient, put one pint of boiled water, a good pinch of salt, and a teaspoonful of the above prescription in a one-quart glass fruit-jar, and shake well. Then add one pound of finely chopped beef, and shake again. Close the jar air-tight and set it in a cool place like the cellar floor, but not on ice, for twelve hours. Then put the jar into water and keep it warm, about 110 F. to 120 F., for four or five hours. Be careful not to let it get too hot. The contents of the jar should be strained through a cloth, and all the liquid squeezed out; the residue will be about the size of a hen's egg and nearly white. This essence may be seasoned with pepper and salt and given warm in ounce doses every hour or two during the second week. If the essence is properly made, the residue will be found to consist almost entirely of white fibrous matter, the red muscular fibers having dissolved out. During the third week, he adds milk by the pint every twenty-four hours in divided doses, largely diluted with sterile water and with as much salt as is palatable. He also gives the white of an egg in water with the juice of a lemon every twenty-four hours, and carbolated camphor in 6-minim doses four times a day, until the patient is entirely well.

3.—See abstract in THE JOURNAL of June 23, p. 1627.

6. **Questions of the Day in Medicine.**—The chief questions referred to in Da Costa's address are the numerous ones that come up in connection with the science of bacteriology, the possibilities of serumtherapy, etc. The active, general practitioner of medicine can not be a thorough bacteriologist, hence the importance of accessible laboratories. These he thinks will be useful if they can be attached to the colleges and hospitals, and besides giving instruction, can aid the profession in the necessary bacterial and chemical examinations required in the daily work. Another point is that of the transmission of malaria, and still another, the eradication of consumption, in which he pleads for the founding of sanatoria for the consumptive poor. The last subject which he discusses is that of medical education, and he shows how some of the needs are being met by changing the educational courses of our institutions.

8. **Hospitals for Consumptive Poor.**—According to Otis, the consumptive hospital should not be merely a place where those afflicted with the disease can die comfortably, but where they can receive treatment. He calls attention to the danger of contagion, and thinks that we must convince the public of the following facts: "1. That consumption is the most prevalent and destructive disease existing to-day, causing one-seventh of all the deaths, and is worst where human beings are crowded together—i. e., in the cities. 2. That it is communicable by the dried sputum, and hence, if this is not properly disposed of, there is danger to those constantly with the sick, and to the public. 3. That it is very curable in the early stages and may be arrested in any stage, hence the importance of proper treatment, and the need of special hospitals and sanatoriums where such treatment can best be instituted. 4. A certain proportion of consumptives will not safely dispose of the sputum, and should be transferred to a consumptive hospital for their own protection and that of the public. 5. Many cases of consumption appointed to die—the hopeless ones among the poor—have no decent place or care, and must either die in abject neglect or go to the almshouse. For this large class, consumptive hospitals are most urgently needed. The condition in which some of these dying consumptives are found is pitiable in the extreme." When the public fully realizes the truth of these facts, it will demand municipal and state aid for the care of the consumptive. In addition to the consumptive hospitals in cities, he thinks there should be state sanatoriums for open-air treatment, where the more hopeful cases may receive care. He believes that the expense of establishing these hospitals would be more than paid for by the preservation of many lives with their future of work still before them.

9. **New Pathogenic Mould.**—Ophüls and Moffitt describe a case in which there was chill; pleuritic effusion; fever to 104 F. and above; diazo but no Widal reaction; joint disorders; gland inflammation; cough; mucopurulent, occasionally blood-stained sputum; irregular consolidation of the lungs; no tubercle bacilli; sweating, etc. The diagnosis was septico-pyemia, and the patient died. The autopsy showed nodular consolidation and necrosis of the right lung; acute bronchopneumonia and chronic interstitial pneumonia with an abscess in the other lung; pus infiltration of the pillars of the diaphragm; necrosis and abscess in the retroperitoneal lymph-glands; empyema of the left pleura; enlarged and softened spleen; cloudy swelling and fatty infiltration of the liver; purulent osteitis and periostitis in the frontal bone over the left eye and in the upper part of the left tibia, and suppuration of joints. Microscopic sections showed nodules with necrotic centers in the liver. In all the diseased parts, peculiar parasitic organisms were found, which, in a few similar cases on record, have been described as protozoa. They seem to be a protozoan-like form of fungus, showing small spherical lumps of protoplasm enveloped in a highly refractile capsulating membrane which grows to 30 microns in diameter, and after reaching this stage breaks up into hundreds or more spore-like bodies which are highly refractile and stain well with anilin dyes. The capsule may burst and discharge these spores into the surrounding area, forming new parasites, or they may develop inside the capsule, which bursts later and sets them free. No locomotion has been observed, but on account of the very close resemblance to coccidia these organisms have been considered protozoans. They report experiments in which they were able to develop mold by cultures and from which they made inoculation experiments, showing the identity of the mold with the above organisms, which appear to be a form of its fructification. The mycelia forms develop only when free in the culture medium, and the protozoan-like bodies did not there develop.

10. **Typhoid Fever.**—The study of twenty-four cases, including 17 of perforation, 2 of pre-perforative necrotic areas, 1 of rupture of the mesenteric glands, and 3 with cause of symptoms undetermined is, for its extent, very thorough and elaborate. The conclusions given somewhat briefly are, that in many who are very sick, typhoid perforation or peritoneal infection can not be diagnosed until the results are wide-spread and fatal; and the chances for relief by operation are practically hopeless. In mild typhoids of fair general condition, an abdominal operation is readily borne, provided no peritoneal infection exists. A small number of typhoidal cases may have sudden perforation with free extravasation and fulminant, but largely localized symptoms; and in these operations must be done in from one to five hours before general infection has become past relief. Walling off of the perforation by adhesions is so rare that it is not to be counted upon. In mild cases, beginning infection, whether from perforation or otherwise, is accompanied with apparently slight symptoms—pains, tenderness, spasm and leucocytosis. The severe following symptoms mean general peritonitis, and call for serious consideration and study, but in most cases are either not rightly understood or not acted upon. Complaint of abdominal pain in case of typhoid should always arouse suspicion of peritoneal infection. Frequent leucocytosis counts are needed in every case, and an hourly count when abdominal pain is present. Pain, with local tenderness, muscular spasm and rising white-blood count point to operation in most cases, and always to surgical consultation. In this series of cases, operation was imperative for hours before it was done.

11. **Separation of Epiphysis of Olecranon.**—Cotton reports two cases of this alleged rare condition, in both of which it occurred apparently from muscular action alone, and union took place within a reasonable time under treatment. Skiagraphic diagnosis in both cases was employed, and the findings point to the fact that there is more than one form of this epiphysis, a thin scale-like form, and another thicker one of the ordinary type.

12. **Influenza in Children.**—Sheffield has treated quite a number of cases of epidemic and sporadic influenza in young children, and he finds that differentiation between the respiratory disturbances of la grippe and ordinary pneumonia is hardly possible at the outset of the attack. In young infants, dyspnea and cyanosis are not uncommon; the digestive organs are almost invariably implicated, anorexia and vomiting being pronounced. The early nervous symptoms are due largely to involvement of the Eustachian canal and frontal sinus, causing headache and earache, while extension of trouble toward the brain may produce serious complications like meningitis. The characteristic nervous symptoms in the order of their frequency, are hyperesthesia, somnolence, insomnia, and vertigo; the latter mostly escapes notice in very young children, though it shows itself by their drooping and swaying the head in various directions. The disease begins with an abrupt rise in temperature of three to five degrees and declines after a few days by lysis or crisis. Prostration is invariably present, even when other symptoms are masked, and of the other numerous complications, he mentions as especially common, pneumonia and meningitis. He also remarks in regard to nephritis and mentions a case. He finds no reference elsewhere to cardiac neuroses of la grippe in children, but reports a case of bradycardia as being of interest. Other complications are rheumatism, which is rare, adenitis, cutaneous eruptions, otitis, rhinitis, conjunctivitis, and periostitis. The diagnosis is easy during an epidemic, but for sporadic cases he relies chiefly on the presence of the Pfeiffer bacillus in the expectoration, the simultaneous development of respiratory, digestive and, at

times, nervous phenomena and excessive and early prostration. He has lost but 2 children out of 119, and says that the death-rate is often overestimated, the mortality being at least lower in children than in adults. As regards treatment, he insists on isolation and hygienic rules. The active treatment is chiefly symptomatic; and among the drugs, he especially mentions sodium benzoate as having a stimulating effect and being a remedial agent capable of meeting most if not all the indications. When called on to treat a case of la grippe of moderate severity he orders:

℞ Sodii benzoat.
Salol
Acetanilid, āā.....gr. iss
Caffein.....gr. ¼

M. Make one powder. Sig. One powder every three hours to a child 6 years old. If the pain is severe, and the child is kept awake, add one-twelfth grain of codein sulphate to each powder.

In cases where children refuse to take powders, he prescribes the following mixture, again adding codein, if necessary.

℞ Sodii benzoat.
Antipyrin, āā.....3ss
Liq. ammon. anisat.
Syr. scillæ comp., āā.....3ii
Syr. altheæ.....3iss
Aquæ anisi, q. s. ad.....3ii

M. Sig. One dram every three hours to a child 6 years old.

Along with this he always directs the inhalation of vapor of compound tincture of benzoin, one tablespoonful of tincture to a quart of boiling water to be kept constantly over a gas or alcohol stove during the entire sickness. For prostration, he thinks small doses of strychnin sulphate and diverse ammonia preparations are most useful. He attributes his success to the use of sodium benzoate and the observance of these other points.

13. **Rectal Valves.**—Bodenhamer's paper is an argumentative one, in which he endeavors to show that the so-called rectal valves do not exist and that the only thing resembling them are the normal lacunæ or sacculi, which have long been known. The alleged valves can have no necessary function, and he doubts that they exist.

15. **Formalin.**—Crawford advocates the use of formalin as an antiseptic in general surgery, but thinks that it has sometimes been used too strong. He gives tables showing the formalin percentage in antiseptic solutions of various strengths He prefers the use of a 4 per cent. solution as convenient for dilution.

17. **Laryngeal Manifestations of Typhoid Fever.**—The different laryngeal lesions mentioned by Lockard are specific typhoid ulcers, non-specific ones, necrotic lesions, submucous laryngitis, purulent perichondritis, diphtheria, and paralysis and spasms of the cords. He thinks we should make careful examinations for these complications in every case of typhoid, not only during the active stage but also during the entire period of convalescence.

18. **Atrophic Rhinitis.**—McKinney reports two cases which he thinks illustrate and confirm very decidedly the view of Bosworth, that atrophic rhinitis is a sequel to chronic purulent rhinitis of childhood. The patients were boys, 9 and 7 years of age, in whom there was evidence remaining of a purulent discharge, together with an existing advanced atrophy of the turbinated bone. There are other cases where he has had the atrophy but has never before witnessed the transformation stage in this form.

19.—See abstract in THE JOURNAL of May 19, p. 1261.

20.—Ibid.

21.—Ibid.

22.—Ibid.

23. **Frenkel Treatment of Tabes.**—Wolfstein describes the general principles of Frenkel's treatment, which has been noticed in detail in earlier articles in THE JOURNAL. The object of this paper is to popularize the method, which he thinks is a valuable one.

24. **Hemorrhoids.**—Monroe describes the different methods of treatment of hemorrhoids and apparently favors the clamp, though he does not think it will be as generally and universally used as the ligature.

26. **Management of Pregnancy and Myoma.**—From a study of his cases, some of which are reported here, Skene classifies myofibromata in the uterus in relation with child-bearing as follows: 1. Subcutaneous tumors, large or small, cause sterility as a rule. 2. Small subperitoneal myofibromata do not always cause sterility or dangerous complications. 3. Interstitial tumors, unless so small that they can not be detected, and large superitoneal tumors closely connected with the muscular tissues of the uterus, do not always cause sterility, but are most dangerous complications of gestation because they predispose to miscarriage and render delivery always difficult and dangerous, and often impossible. The first class may be left out of the account. The second requires attention in the first months to keep the uterus in position and aid in its rising from the pelvis. Help may be required in delivery and special protection from post-partum hemorrhage. The third demands hysterectomy as the surest means of safety. The time of operation is discussed, and he thinks that it should be undertaken only when there is evidence that the product of conception is no longer living.

27. **Intestinal Anastomosis.**—Ferguson describes a new form of enterotome as an aid in suturing the intestines, and gives a tabulated statement of a number of experimental operations showing its advantages for intestinal anastomosis.

29. **Placental Transmission.**—The author reviews the literature of placental transmission of drugs and specific disease, and finds that, while many drugs have no noticeable effect on the fetus, there are certain ones which have a special tendency to transverse the placenta and others that have a decided influence for good or evil. Maternal medication is therefore indicated in certain conditions, either to prevent the development of a similar condition in the fetus or to counteract the effect of germs or toxins already introduced. The drugs that have been found to affect the fetus *in utero* are notably opium, mercury, copper, lead, arsenic, and the iodids. Any morbific influence on the mother will react deleteriously on the product of conception, and either destroy it or render it feeble and less resistant to subsequent and post-natal invasion, or the disease will run an atypical course *in utero* with or without apparent vestiges at birth. The entrance into the fetal structure is accomplished through the fetoplacental circulation. Bacterial action probably renders the placental villi less resistant. As a rule, the infectious diseases do not manifest their characteristic visceral lesions in the fetus, probably because of the passivity of these organs during antenatal existence. The germs, however, may often be detected.

33.—See abstract in THE JOURNAL of June 9, p. 1489.

34.—Ibid.

39. **The Physician and Surgeon in Abdominal Practice.**—Benedict argues for the importance of the physician and the presurgical diagnosis in surgical diseases of the abdomen. The surgeon should not pretend to possess double skill and act as diagnosing physician as well as the operator.

40. **Hay-fever.**—Hollopeter believes the important thing in hay-fever is to carefully study the nasopharynx. If no extensive lesions exist, he thoroughly sprays the pharynx with warm 2 per cent. Lobel's solution and follows this with a small applicator, armed with absorbent cotton dipped in a saturated solution of boric acid, with which he thoroughly touches all parts. He gives the following prescription as efficacious and having excellent keeping qualities:

℞ Adrenals (Armour's) desiccated.....3i
Acidi borici.....gr. xvi
Cinnamon water.....3iv
Camphor water (hot).....3i
Aquæ destil (hot) q. s. ad.....3ii

M. Macerate for four hours, then filter.

The surgeon will find this extract a great aid in all minor operations, and to insure results, a pure suprarenal substance should be used. After the use of the spray and atomizer in the anterior nares, he uses an oily application for a protective covering, containing as its base liquid petroleum, with camphor, menthol, and an oil of palmetto in solution,

and carefully applies it to the whole membrane previously treated. As a rule, he begins this treatment at least one week before the expected onset and continues it daily, sometimes twice daily, until ten days after the attack.

52. **Nature of Cancerous Processes.**—Park's paper discusses the nature of cancerous growth, with special reference to its infective and inoculative transmission and the malignant transformation of simple lesions like cicatrices, ulcerations and non-malignant ulcers. Cancerous cachexia is principally a complex product of numerous factors, including degenerative products, both from neoplastic cells and disturbed action of normal cells, the anemia from hemorrhage, secondary septic infections and renal lesions.

54. **Uterine Myomata.**—The indications for operation for uterine myomata are divided into three groups by Ill. In the first class are those in whom life may be endangered directly or indirectly by the growth, including bleeding myomata, septic and sphacelated myoma and the tumors producing extreme pressure, those growths which become strangulated by torsion or impaction, those accompanied with extensive and recurrent inflammatory diseases of the appendages, those occurring during pregnancy and in young women under 30 years, those associated with attacks of peritonitis, or inflammation of the tumor itself, cases of doubtful diagnosis, those of special location producing serious symptoms of hemorrhage, cases where there is a suspicion of malignancy, where there is excessive serous mucus or mucopurulent discharge, severe uterine contraction causing presentation of the tumor at the os, and those favoring a septic inflammation, and tumors occurring after the menopause which are suggestive of malignant disease, or where inversion of the uterus has been produced. The second group includes those cases where health is so seriously impaired that life becomes a burden, though it may not be in danger, and includes cases of enlarged size, excessive mobility, adherence of pedunculated tumor to the bowels, mesentery or bladder, mild inflammatory disease of the appendages, excessive menstrual pain and pain in general. Under the third class are included those in whom the mental condition suffers from the fact that they have a tumor, those sensitive, usually unmarried, women with large growths, those who "harp" on their condition, and those who can not separate in their minds a tumor from a cancer. Any of these are likely to demand an operation. The contraindications to operation are when the patient is unaware of the trouble, or has discovered it, but suffers neither mentally nor physically, when the symptoms are slight, in women who can nurse themselves, those near the menopause who can be relieved by clothing, abdominal supporters, food, etc., women suffering with other more serious diseases likely to be fatal, such as phthisis or Bright's disease, which is not connected with the growth. As regards the operation, he rather favors the abdominal route, but the operator should take his choice of the vaginal route when the tumor is freely movable and can be easily pushed into the cavity of the pelvis and the vagina is wide enough for easy and comfortable operation, and also when there is complete chronic inversion of the uterus. He is not partial to total extirpation of the uterus by the supravaginal method and believes rather in supravaginal amputation.

55. **Relation of Pregnancy to Nervous Diseases.**—According to Putnam, we must consider the relation of pregnancy to nervous disorder in two ways, i. e., the effects of pregnancy on the already existing disorder and pregnancy as its cause. It has never been found that pregnancy has any effect on epilepsy, for as as rule patients are neither better nor worse. No one should delude himself that marriage with an epileptic is safe or wise. Pregnancy has been observed as a cause of epilepsy several times. The chorea of pregnancy is, in his opinion, not so very serious a condition, or at least not the fatal disease which many writers would have us believe. The necessity for producing abortion in this case seldom arises. Diabetes may occur during pregnancy and at no other time; and it is noteworthy that in these cases coma has seldom developed. In twenty-two cases studied by Matthews Duncan, four were fatal, but they died in collapse, not in coma. There is no ground for holding that diabetes mellitus appears more frequently in pregnant than in non-gravid women. Tetany has been observed many times in Europe in connection with pregnancy, though it is less common in this country, and is more liable to occur in those who have had the disease before marriage. Nervous diarrhea has been observed in about 1 per cent. of several thousand cases in the Turin Maternity. The relation of exophthalmic goiter with pregnancy has been but indifferently studied. Dreschfield and Charcot have observed cases that improved markedly, if allowed to go full term; sometimes improvement has been observed and again it has appeared to make it worse. Further investigations of the effect of pregnancy on pre-existing exophthalmic goiter, and on pregnancy as a direct cause of the disease, are needed. Hysteria has been caused by pregnancy and is liable to be aggravated by it if existing before. There is, however, no tendency in the hysterical to premature labor. Myelitis has been observed in several cases as a result of septic infection. The insanity of pregnancy is well known, the insanity of childbirth is, according to Putnam, in many cases septic in its origin, and generally takes the maniacal form, in contrast with the disease when it occurs during pregnancy, which is usually melancholic, according to his experience.

56. **Prostatectomy.**—Thorndike advocates Alexander's operation as the best fitted for the relief of prostatic trouble. He believes that the entire prostate is thoroughly and entirely removed by enucleation; and that it is a comparatively bloodless operation. Its range of usefulness will be much widened when its value is fully recognized by surgeons.

63. **Impetigo Adenosa.**—The observation of ten cases of a peculiar type of skin trouble has led Aronstam to describe it under the above name. It is an acute, contagious, febrile affection characterized by an eruption of pustules, accompanied by enlargement of the lymphatic glands in their various situations. The disease is no doubt contagious, but bacteriologic data are wanting. It is usually ushered in with vomiting of a protracted type and a decided chill of short duration, followed by a fever, the temperature ranging from 101 to 104 F., the pulse ranging from 120 to 140 per minute, and the breath heavy and offensive. Small moist râles could be heard all over the anterior surface of the thorax, and pain was present in the joints, and especially in the posterior tibial muscles. The children were prostrated and apathetic. The trouble lasted from two to three days, after which pustules began to appear on the more exposed portions of the body, they were glistening and contained a yellow, translucent fluid, and were surrounded by a vivid scarlet-colored zone. They appeared simultaneously with the swelling of the lymphatic glands of the groin and neck, some of these even attaining the size of a small hen's egg, and being very painful and tender on pressure. After a day or two, the pustules increased in size and finally ruptured, after which the symptoms began to decline, and the appetite to return. The contents of the pustules dried up and changed into crusts of a yellowish hue, surrounded by a raised border of mahogany color, and this by a deep red area. After three or four days the crusts fell off, the color disappeared, the normal healthy integument returned, the tongue cleared up, and the patients were quite comfortable, but the glands remained more or less painful for a week or ten days, and in all the cases, there was a burning, itching, and smarting, the former being quite excessive, and these coincided with the lesions. Every case recovered completely, with no after-effects or complications, except alopecia in one case. Nothing seemed to affect the disease, although the treatment was symptomatic, calomel being given to relieve constipation, which was invariably present; and bismuth and lime-water for the vomiting. The ice-bag to the head relieved the cerebral symptoms, and iced lemonade was given freely. The itching and burning were relieved by an ointment of zinc dioxid, ichthyol, and menthol—the latter of 1 per cent. strength—aplied twice a day. The swollen glands were completely covered with gauze saturated with a lead and opium wash, which had no effect, but iodin seemed to do better. During convalescence, cod-liver oil with the hypophosphites and the syrup of ferrous iodid was prescribed, together with good feeding, plenty of fresh air and exercise.

68. **Chronic Deforming Polyarthritis.**—Walls reports a case of arthritis deformans in a child 5 years old, which has been improved by change of surroundings, more hygienic quarters and better food, and he has hopes of seeing complete recovery. He discusses the condition and says that the treatment mainly consists in supplying abundant fresh air, good food and in giving attention to the skin and nutrition. During the acute periods, salicylate of soda and antipyrin with soothing oils and ointments are of value. In the interval, general tonics such as cod-liver oil, iodid of iron, tincture of iodin, arsenic, massage and galvanization are likely to be useful.

81. **Venereal Hygiene of Future.**—Sholl's article is an imaginative one of the "Looking Backward" type, showing the condition of things in the ideal community of the future, in which marriage is regulated, criminals are unsexed and degenerates generally eliminated.

84. **Malaria and Mosquitoes.**—Moody claims that the question of the agency of mosquitoes in all cases of malaria is not yet settled. He believes that there are places where mosquitoes do not exist and malaria does, and that there is more than one method by which the germ of malaria may reach the blood. He also thinks it possible that it may be introduced during the mosquito season and lay dormant for months before producing its special effects. Another theory is that the different plasmodia have different modes of propagation and introduction. He says that the question is a very interesting one and one that calls for thorough study by the physicians of the South. He has seen cases of typical double tertian occurring in towns where no mosquitoes have been seen for months.

89. **Gasoline as a Surgical Detergent.**—From the action of this agent in cleansing wounds soiled with what railroad men call black-oil, Riordan was led to consider its efficiency as a surgical detergent. He finds that it has a decidedly antiseptic action when applied on cotton gauze, and that it does not irritate fresh wounds. It will be necessary to keep it from getting into the cavities, such as the eye and ear, where it is irritating, but if applied to surfaces where it can rapidly evaporate, it gives a cool, pleasant sensation. Microscopic appearances of the skin after being scrubbed with soap and water, and after being wiped off with gasoline, showed that the cleansing effect of the latter went much deeper and cleaned out the mouths of hair follicles, sebaceous glands and sweat ducts much more perfectly than did the soap and water.

71. **Ergot in Obstetric Practice.**—After noticing the opinions of various authorities, Hastings concludes that the use of ergot is always attended with more or less danger to the fetus *in utero*, and that it should be given twenty minutes before its action is required, and given to secure tonic contraction. He believes that it is valuable in preventing postpartum hemorrhage and in closing up the channels of septic absorption.

92. **Chloretone.**—Rudolf has experimented with chloretone on animals with special reference to its physiologic effect, and concludes that it would seem from Houghton and Aldrich's results, to be an ideal general anesthetic for physiologic work. It has for hours little or no effect on the pulse, respiration or blood-pressure, but eventually, if the dose is large enough, these become depressed and the animal dies, the heart stopping first. It is also more depressing on the bodily temperature than other drugs with which he is acquainted, excepting alcohol, and, therefore, should be used with great caution in medical practice. This is the more important as the drug is very slowly eliminated and has no known antidote, excepting perhaps external warmth.

96. **Communicable Diseases.**—Allen reviews the principal communicable diseases and their methods of dissemination, and suggests the instruction of the public in regard to the following points: That the dust from infected handkerchiefs, when the secretion has dried, often contains germs; and that they should, under no circumstances, be used after any secretion from the nose has been permitted to dry on them, and that after being used they should be placed in a paper bag, the top twisted shut, and there remain until they can be boiled in water; that contagion is liable to be spread by dust from floors or articles on which infected sputum or saliva has been ejected; by contact with the hands of persons who cough or spit into handkerchiefs, and then handle infected material; clothing often contains the germs of a communicable disease; books, pencils, chewing-gum, drinking-cups, etc., which are used in common, are often sources for the spread of contagious diseases; that while typhoid fever is ordinarily caused through the medium of drinking-water which has been contaminated with sewage or with leakings from privies, it is not improbable that it is sometimes spread by means of dust containing the germs of the disease.

97. **The Three Symptoms of Rickets.**—Berkeley calls attention to the haziness of the conception of rickets by many of the profession, and notices its most constant and striking symptoms. The first of these is the costal rosary or nodes, which are sometimes missed by the examiner because they are farther back from the median sternal line than in the adult, occasionally there being only an angle instead of a node. The typical rickety cranium is most noteworthy in the prominence of the parietal bones, which gives its characteristic box-like shape. The anterior fontanelle remains open late, often being greater at two or two and a half years than it should be at its greatest normal size. The sutures may be more or less separated and the bones thinned or softened. The latter condition—craniotabes—sometimes occurs with normal shaped heads. The shape and size of the liver and spleen should always be investigated, as the chronic intestinal indigestion of rickety infants furnishes toxic matter enough to cause swelling of these organs; and to this must be added the influence of the secondary anemia of the disorder. The enlargement is sometimes astonishing and causes many adventurous essays in diagnosis. Why one or the other shoud exceed in this respect is not clear, but the spleen is most apt to reach remarkable size.

100. **Brain Traumatisms.**—In the majority of injuries to the brain, the lesions are multiple and the general symptoms mask the local ones, while the general depression may be so prolonged that the latter may be observed too late to be of real value, and hence, the importance of localizing symptoms in injuries to the brain is not so great, acording to Williams, as has been supposed. He believes that simple surgical shock is the cause of many of the symptoms credited to concussion or depression, and that the real pathogenic conditions causing prolonged unconsciousness are often overlooked, attributing them simply to a depressed bone or hemorrhage. Too much stress is also laid on the presence of fracture; compound fracture is only of importance as affording a source of infection. He believes that operation on the brain, under proper asepsis, is as safe as an operation on the abdomen, and should be done as readily. More can be accomplished by early operative interference than has been, and drainage of the epidural region or even the pia-arachnoidal cavities will, in many cases, relieve intracranial pressure and restore nutrition.

103—See abstract in THE JOURNAL of May 5, p. 1131.

104. **Colorado Climate and Sleep.**—The effects of the climate of Colorado on sleep are described by Eskridge, who finds that in acclimated persons of temperate and regular habits sleep is continuous and refreshing. For those who lead irregular lives, keep late hours, indulge in alcohol and smoke a great deal at night, sleep will be more disturbed and less refreshing than at sea-level. During the summer months, it is always easier for the phlegmatic individual to sleep in Colorado than in lower altitudes. On the other hand, sleep is disturbed more easily by slight causes, though the need of it is somewhat less. In those who are over-worked mentally, sleep is broken and shorter, as the climate seems to disturb the nervous system in this respect more than in others. Those who are inherently nervous are likely to have trouble in getting sufficient sleep, but if they are careful not to take too much physical exercise the difficulty is relieved. The neurasthenic and the hysterical patient always have difficulty in getting enough sleep in Colorado, unless they take abundant rest. All stimulants seem to have a greater disturbing effect than at sea-level. Tubercular subjects sleep as well in Colorado as at lower levels, and better if they avoid over-exercise and excesses. Nervous people do not stand prolonged residence so well there as in lower altitudes. Sleep in unacclimated persons coming to Colorado may be increased or greatly les-

sened. For the majority of consumptive patients, sleep is worse on coming to Colorado, unless precaution is taken to diminish exercise. For the over-worked from the eastern sections, who do not have indigestion or brain changes, the climate of Colorado possesses the best means of overcoming insomnia and of building up the nervous system. For those who are troubled for sleep in that climate, a change once or twice a year is of advantage.

112. **Stone in the Bladder.**—Paschal says that each operation has its indications and must be chosen accordingly. Litholapaxy gives the lowest mortality, but is not suitable where the stones are very hard and large. In all cases where there is chronic cystitis and it is desirable to give the bladder rest, there is no better treatment than simply to open it. In unskilled hands litholapaxy is not as safe as the cutting operation. The perineal operation gives a smaller death-rate than the suprapubic, which is best suited for cases of very large stone and for old individuals with prostatic tumors or enlargements, but it is not suitable for children. A well-performed lateral operation leaves little to be desired and is suitable to all cases. The combined perineal and suprapubic operation may be done, when needed, with perfect safety. Perineal lithotrity is not a well-accepted operation, and has no particular advantages over other ones. The recurrence of stones after removal follows any operation, perhaps no more frequently in one than another. The cause that gives rise to their formation should be sought and treated.

118. **Tuberculosis in Children.**—Risinger believes that many cases of mucous catarrh are due to tubercle bacilli and that lesions of this nature lead to the development of the strumous gland. He adopts Still's views as to the route of infection being chiefly by the air-passages, the frequency of intestinal tuberculosis being due to the swallowing of sputum. He thinks that there is no disease which has a greater tendency to cure or to remain quiescent than tuberculosis, and that it generally attacks the bronchial lymph-nodes. He says that a large majority of children suffer during one period of their life from a benign and self-limited form of tuberculosis. For the great majority of these children, the prognosis is good, it is only the weaker that suffer from pulmonary tuberculosis and from autoinfection. Milk infection is, in his opinion, extremely rare.

119. **Appendicitis.**—Love discusses the subject of appendicitis and the medical and surgical methods of meeting it. He lays stress on the value of colonic irrigations, and says that if he was subject to the disease, with no imminent danger of perforation, he would have the intestinal canal thoroughly cleaned out, the pain controlled by hot and cold applications, ice-bags, etc., a snug, firm abdominal bandage over a sheet of oil-silk and a layer of cotton batting applied. The absolute withholding of food for a week or more is best in most cases. The ideal method is the surgical, but since it is not safe to trust to the average general surgeon or general practitioner for operation, medical treatment is important.

125. **Primary Renal Tuberculosis.**—Ramsay concludes that in renal tuberculosis some form of surgical treatment is always indicated, and that it may have a palliative or curative effect, according to the condition of the patient and extent of the condition. As a palliative operation, nephrotomy gives almost immediate relief of dangerous symptoms and does not preclude a latter nephrectomy. Resection of the diseased part of the kidney is always contraindicated in this condition. Nephrectomy or nephro-ureterectomy is always indicated where tuberculosis has not developed elsewhere or when there is no fatal disease of the other organs. Tuberculosis of the bladder or a small focus of tuberculosis in one lung is not considered a contraindication to nephrectomy and primary nephrectomy or nephro-ureterectomy has been followed in suitable cases by final cure in 56 per cent. With the present methods of examination and improved operative technique, the percentage of final cures should be materially increased.

127. **The Walcher Posture.**—Walcher's statement that the true conjugate gains from 1/3 to 2/3 inch has been denied, and after noticing what others have reported, Cutts says that in an examination of a female cadaver at the University of Minnesota, he found an increase of ⅛ inch in this position, while marked flexion reduced the true conjugate ¼ inch, making the total difference 3/8 of an inch. He thinks that this would be still further increased in the living pregnant state. The transverse and oblique diameters remain unchanged in the extended position, yet all lines radiating from the promontory to points of the superior strait are increased in somewhat the same proportion as the true conjugate. He believes that at least some cases of dystocia at the superior strait would be benefited by the Walcher posture.

128. **Plague.**—The plague is discussed by **Flint,** who mentions the origin and history of the present pandemic, and then describes what he has seen in Hongkong and in India. The Chinese, who are the principal victims in the former place, are about the filthiest people on the earth, though the conditions in Hongkong did not equal those in some Chinese towns. The spread of the disease seemed to be largely through rats, but still more by fleas. Flies and mosquitoes do not seem to infect human subjects much. The symptoms of the disease, as observed in Hongkong, are largely the same as described elsewhere, but the mortality is much greater than it was among the Indian populations, even of the lowest class. The plague measures in India were not so thorough as in Hongkong, and the bigotry and animosity of the natives gave more trouble than among the Chinese. The effects of the Haffkine's inoculations are noticed and statistics given of the experiments at Hubli, which seemed to show that it had a most beneficial effect.

129. **"Christian Science."**—The author describes "Christian Science," its doctrines, policy, etc., and discusses the cause of its growth and flourishing condition. He believes that it is a sort of religious mania, one of those delusions which are cunningly contrived to gain a strong and permanent foothold. There is always an element in a community that goes to extremes in adhering to its ideas. He does not think that there is much that can be done to combat this, except to correctly instruct the people, and see that the public is protected, that births, deaths and contagious diseases are reported and that small children are protected from "Christian Scientist" measures. They have so far usually escaped penalties by claiming that they do not give any drugs or other medical treatment.

130.—See Therapeutics Department in this issue.

131.—Ibid.

132.—Ibid.

145. **Vaccination—A Correction.**—In an abstract in THE JOURNAL, June 23, of an article by Dr. F. J. Runyon, in the *Memphis Medical Monthly*, the statement was made that he deemed that only about 25 per cent. of those vaccinated are immune. It should have said that he claimed only 25 per cent. of successful vaccinations with glycerinated lymph were efficient in immunizing.

FOREIGN.

Physician and Surgeon. June 21.

Pelvic Pain in Women Caused by Impacted Ureteral Calculi. SEPTIMUS SUNDERLAND.—From his experience, some of which is here reported, Sunderland asserts his belief that a large number of women suffer from pelvic pain in varying severity by a stone in one or the other ureter and the pain is likely to be considered by the attendant as due to ovarian or uterine trouble, or regarded as of neuralgic, neurotic or hysterical origin. Occasionally, if the pain be situated on the right side, the appendix may be credited as the source of trouble. He advises that skiagraphs be taken of the kidney to discover if stones are present. In doubtful cases also one should have recourse to careful palpation of the abdominal parieties, inspection of the orifices of ureters with the cystoscope, examination of the urine and other methods for verifying or otherwise the presence of these complications in this situation.

British Medical Journal, June 23.

Degeneration of the Neurone. FREDERICK W. MOTT.—The author first gives the history of the neurone, the objections to it by Apathy and Bethe, the various elements of the neurone and their physiology, and passes to the degenerations of this unit of the nervous system. After the historical introduction, in which he gives Dr. Waller's theory, he shows that

while there is traumatic degeneration there are other forms, like disuse-atrophy as shown by Dickinson and others. Senile decay is also mentioned, and he passes to the physiologic facts in regard to the functions of this organ. Before going into the detailed account of his own observations, which will take up the most of three following lectures, he gives a few illustrations relating to the neurone theory as regards the transmission of impulses and certain physiologic problems connected with the variable resistances to transmission of the spread of excitation. The lecture may be considered as a preliminary one bearing on the general facts that are necessary to learn in regard to the anatomy and functions of the nerve units, and should be read in full.

The Lancet, June 23.

Some Notes on the Introduction and Spread of Plague. G. J. BLACKMORE.—The writer calls attention to the great extension of plague throughout the world and the possibility of its introduction even into Great Britain. Experience has shown that during the first year only a few cases occur, and those generally not of a serious character, and the disease apparently disappears. The following year it, however, is seen again about the same time, there are more cases and the disease is more serious, but can scarcely be called an epidemic, and once more it disappears, only to appear again the third year, when we can see the epidemic visitation. This is Calcutta's experience and has been repeated universally. We do not know how the plague is transmitted from one person to another. It seems improbable that it occurs through the air or by mere contact. It is probable that it occurs from inoculation, though much more probably by means of insects and fleas. We know little more about its passing from place to place, though the fact that rats suffer from the same disease is significant. The statement that there is no mystery about the plague and that it can be stamped out is liable to do harm by creating a false security. Blackmore says that plague is liable to appear in mild form and sporadic cases and not be recognized. This is the probable source of many unexplained outbreaks, and a special danger is that it may not only reappear in the same place, but that it may spread to different places. He advocates the strictest examination of all vessels from plague-infected ports, and that all ports where the disease has occurred should be still considered, for a time at least, infected. All persons who come from places where plague is present or suspected should consider themselves possible sources of infection and should not treat even an apparently slight indisposition lightly for at least ten days after leaving the vessel that has been in an infected port. The crusade against rats and bedbugs should be most thorough, and the disinfection of rags and dirty clothing should be carefully attended to. A sharp lookout should be kept for an increase in the mortality of rats and a search made for the plague bacilli in the bodies of those found dead. Preventive inoculation should be early resorted to.

A Plea for Early Operation in Cases of Undoubted Tubercle of the Lung. J. FOSTER PALMER.—The author advises operation in cases of tuberculosis and shows how such interference with lung tissue may be often productive of a cure. The chief dangers are collapse, surgical emphysema and hemorrhage. The introduction of bacteria from without can be prevented by modern antiseptic methods.

Comparative Germicidal Action of Some Disinfectants. ARTHUR H. BURGESS.—The writer has experimented on mercury biniodid, mercury perchlorid, chlorinated lime, formal aldehyde, lysol, carbolic acid and a number of other preparations, and tabulates the results of his experiments. The germ experimented with was the bacillus coli, which has, for a non-sporing bacillus, a high power of resistance to germicides. His method is explained in detail and consisted in obtaining a pure culture, making sub-cultures upon the potato. The characteristic dark-brown growth was removed with a thick, sterilized peptone wire and mixed in a vessel with a little sterilized peptone bouillon to form a thick emulsion, into which silk threads were immersed. They were carefully sterilized previously, and after immersion in the emulsion for ten minutes were transferred with sterilized forceps to a Petri's capsule, in which they were partially dried in the dark, in a temperature of 24 C. for three hours. They were next transferred to the disinfecting solutions to be tested and, after remaining in these for the required time, were lifted out with a sterilized platinum hook, washed in sterilized water and placed in a separate tube of peptone bouillon. These tubes were incubated at 37 C. for ten days, being examined each twelve hours for forty-eight hours, and daily thereafter. If no growth occurred, the bouillon was perfectly clear at the end of that time; if it did occur, it began to show signs of turbidity within from twelve hours or less to seventy-two hours. The presence of growth was shown by microscopic examination, and by inoculation of gelatin plates. If no growth occurred at the end of ten days it was concluded that all bacilli had been killed with the disinfectant solution. In every case a control experiment was made precisely as above, except that sterilized disinfectant water replaced the disinfectant solution and in each instance growth was found to be present at the end of twelve hours According to the table given, mercury biniodid takes first rank as a disinfectant, following this is mercury perchlorid; chlorinated lime, formal aldehyde, lysol and carbolic acid follow at long distance below. The formal adehyde is prepared from the Schering formula and the preparation stated in the table referred to formal aldehyde and not to formalin.

Brazil Medico (Rio Janeiro), May 1, 8 and 15.

Sublimate-Serum and Vaccination in the Plague. C. TERNI.—The Italian government commissioned Professor Terni, director of the Institute of Hygiene at Messina, to study the plague and yellow fever in South America, and especially to test Baccelli's endovenous injections of sublimate. He states that Haffkine's vaccination, as modified at Messina, is the best method of immunizing men and animals against the plague. By his modifications he produces a vaccin much more rapid and active in smaller amounts than is obtained by any other method. A man inoculated with 2 c.c. has a chill and slight temperature in four hours, but sleeps well and wakes sweating profusely, in normal condition, except for pain in tumefied glands, and is able to attend to his affairs within twenty-four hours. A serum of great curative value can be produced in animals hyperimmunized with virulent cultures. The "beef" and the monkey are best adapted for the purpose, all animals being rejected that are not naturally extremely resistant to the inoculations. This antiplague serum stimulates phagocytosis and, combined with .5 per cent. sublimate in endovenous injection, proved remarkably effective in the four cases of plague in which it was tried. The germs rapidly vanished from the blood and three patients promptly recovered. The fourth showed marked improvement and treatment was suspended, but the patient died and the deep glands were found gravely infected from a primary bubo in the axilla. In all treatment of the plague, radical extirpation of the foci and surroundings is imperative, and the prognosis depends upon the thoroughness with which this is done. Terni obtains his extremely virulent material by inoculating guinea-pigs or monkeys with the plague bacillus direct. He first injects 10 to 15 c.c. of glycerinated bouillon or of a simple aqueous solution of 1 per cent. sodium chlorid and 3 per cent. pure glycerin, following this with a droplet of plague bacillus. The animal dies in two or three days and the peritoneal cavity contains about 30 c.c. of an exudate which is an actual "cream" of plague bacilli. A single drop of this exudate will kill a guinea-pig or monkey in twenty-four hours. One unit by weight of bacterial protein—equivalent to a liter of glycerin beef-tea culture—is contained in about .5 c.c. of this exudate, which has to be diluted to a fifth to prevent coagulation. He uses 1 mg. of the dry exudate of 1 c.c. of an aqueous solution of .5 per cent. sodium chlorid and carbonate; the latter has a tendency to soften the envelope of the bacteria. He avoids injury to the elements of the vaccin by sterilizing it at the low temperature of 55 C., repeated at intervals during several days, and then adds 1 per cent. phenic acid. This vaccin is extremely rapid in its action and not more than 1 to 2 c.c. are required, as mentioned above, a vast saving of time, material and effort.

Yellow Fever. C. TERNI.—Sanarelli's icteroid bacillus was found constantly at the autopsies on persons who died of yellow fever, but it was never found in patients with other diseases. The chief anatomo-pathologic lesions in yellow fever are always in the small intestine, and Terni considers the disease a gastrointestinal infection. The method of vaccination described above can be applied to yellow fever; .5 c.c. will prove amply effective, and without serious after-effects. The blood of animals susceptible to infection and vaccinated—guinea-pigs, rabbits and dogs—shows the agglutinating reaction and marked antitoxic power. Dogs and rabbits, after the reaction to the vaccination is past, readily bear doses of the virus ten times stronger than is required to kill the control animals and their serum possesses intense bactericidal action. These and other facts he has established, impel Terni to propose vaccination against yellow fever as a means of individual prophylaxis. The evidence is decidedly in favor of water as the medium of contagion; aerial infection and also flies and gnats as media must be excluded. In all his research the icteroid bacillus was found on only one fly. Lacerda's theory of the symbiosis of the icteroid with a mold should be thoroughly tested; at present it seems to conflict with the fact that molds secrete acids, while acids are known to have an unfavorable effect on the development of the bacillus. Serotherapy of both plague and yellow fever is still in its infancy, but promises much for the future.

Annales de Dermatologie (Paris), May.

Non-Parasitic Nature of Eczema. C. KREIBICH.—In the course of extensive research on cutaneous suppurations, conducted at Kaposi's clinic, Kreibich found the staphylococcus or streptococcus in twenty-six out of forty-one cases of vesicular eczema. But it was impossible to induce acute eczema in other subjects by inoculating them with either the serous fluid or the microbes derived from it. The inflammatory papulous nodule and the rapidly drying vesicle which followed the inoculation in certain cases, were merely a non-specific reaction of the skin to any irritation, whether caused by a microbe, a mold or by the chemical or mechanical action of any substance. These lesions have a natural tendency to elimination of the irritating agent and hence to spontaneous recovery, but they are liable to invasion by pyogenic microbes sooner or later, transforming the vesicles into pustules. The negative results of these inoculations and the fact that the fresh lesions in acute eczema are sterile, while only the old contain pyogenic microbes, confirm the non-parasitic etiology of the affection.

Bulletin de l' Academie de Medecine (Paris), June 12.

Abdominal Testicular Ectopia. LUCAS CHAMPIONNIÈRE.—A frail, poorly-developed child of 11 years of age was operated on by the writer twelve years ago on account of true, bilateral cryptorchidia, or abdominal testicular ectopia, with bilateral inguinal hernia. The testes were sought, mobilized and transplanted in the region of the absent scrotum in a cavity dug out for each with the fingers. The vas deferens and testicular artery were the only support left for one, which was less developed than the other. Each testis was transplanted separately. The first result was the disappearance of the pains occasionally noted before, evidently caused by the attempts at hernia of the testes. The general health was completely transformed within a year. The child has developed into an exceptionally strong, well-built young man. The testes have worked up a little from their first position, the smaller to a point over the scar of the hernia, and it has recently been extirpated on account of pain during physical effort. There was no evidence of spermatogenesis in this extirpated testis, but the genital functions were otherwise regular, with frequent erections. As far as the writer could learn, this is the only operation on record for double abdominal ectopia of the testes. The remarkable transformation in the general health and normal development of the genital functions after transplantation of the ectopic testes are significant facts, applicable also to inguinal ectopia. He has operated in thirty-seven cases of this latter kind, six of which were bilateral. He always seeks to retain the testes, for even if they do not serve for spermatogenesis, they certainly aid in the normal development of the general physique and genital functions. The testes frequently descend spontaneously in very young subjects and consequently he does not advocate expectant treatment in these cases unless forced to operate by pain or defective development. When the testis fails to descend there are usually fibrous adhesions above which hold it, and consequently traction is useless until these have been severed. If the vas deferens is too short to allow transplantation, castration is the only resort.

Semaine Medicale (Paris), June 13.

Should We Treat Fever? R. LEPINE.—The ancients considered fever salutary in disease, and this view has been maintained as a sort of dogma until this century, but many now combat the heat as the chief enemy in disease, proclaiming, with Liebermeister, that treating the hyperthemia is treating the fever. The conclusions of Lepine's article—which will be presented at the International Congress in August—are that although the hyperthermia usually is an indication of the gravity of a febrile disease, it is far from being the principal factor, and that the aim should be to treat the fever specifically. This can be accomplished in diphtheria, malaria and articular rheumatism, but in other diseases we are restricted to merely supervising the reaction of the organism, moderating it in certain cases with antipyretics, which are to some extent specific for certain pyrexias. In others we must stimulate the reaction with hydrotherapy or by the application of cold, and in others by sustaining the general system. It is the task of therapeutics to pursue the infinite complexity of the elements of disease and give the patient the benefit of all our resources as conditions arise to demand them. Quinin seems to have a semispecific action in la grippe, and also pyramidon—which Lepine much prefers to antipyrin, as better tolerated and requiring smaller amounts for the same dose—and similar drugs have an unmistakably favorable effect. In anemia, also, the fever should be treated; only harm can result from allowing the febrile consumption to continue, and quinin will usually arrest it. Tuberculosis is also another condition in which the fever must be combated, always bearing in mind—while of necessity using them—that antipyretics, even the most harmless, sometimes induce collapse in phthisical subjects. Alcohol is also serviceable in their case as an adjuvant. The treatment of typhoid fever which at present gives the best results is cold baths with the correctives indicated by the individual case. This treatment cools and stimulates the febrile reaction and also the nervous system. It is most effective in typhoid fever, cerebral rheumatism, and in certain cases of eruptive fevers. In pneumonia, hyperthermia, even extreme and for two days, is not necessarily injurious. This disease, with its extensive local lesion, can scarcely be called a pyrexia, and the benefit of digitalis must be ascribed to its influence on the heart rather than on the hyperthemia. It is possible that the high temperature may have an unfavorable influence on the pneumococcus, or may favor the defensive reaction, or both combined.

Dermatologische Zeitschrift (Berlin), June.

Syphilis of the Stomach. MAX EINHORN.—Syphilitic ulcer of the stomach has been observed a number of times, but syphilitic tumor of this organ is rarely discovered on autopsy, and has seldom, if ever, been diagnosed during life. Einhorn reports two cases of each of these lesions—the tumors simulating malignant neoplasms—cured by specific treatment. He also describes two cases of stenosis of the pylorus in syphilitic patients, with the familiar symptoms of ischochymia, etc., rebellious to internal treatment and apparently demanding surgical intervention. A tentative course of potassium iodid resulted in prompt and permanent recovery.

Syphilis of the Kidneys. J. J. KARVONEN.—This comprehensive study of renal syphilis in all its manifestations has been continued from Volume v, and the end is not yet. All cases on record are critically analyzed and personal observations described in detail. Karvonen emphasizes, however, the fact that "ordinary nephritis" may occur at any stage of syphilis.

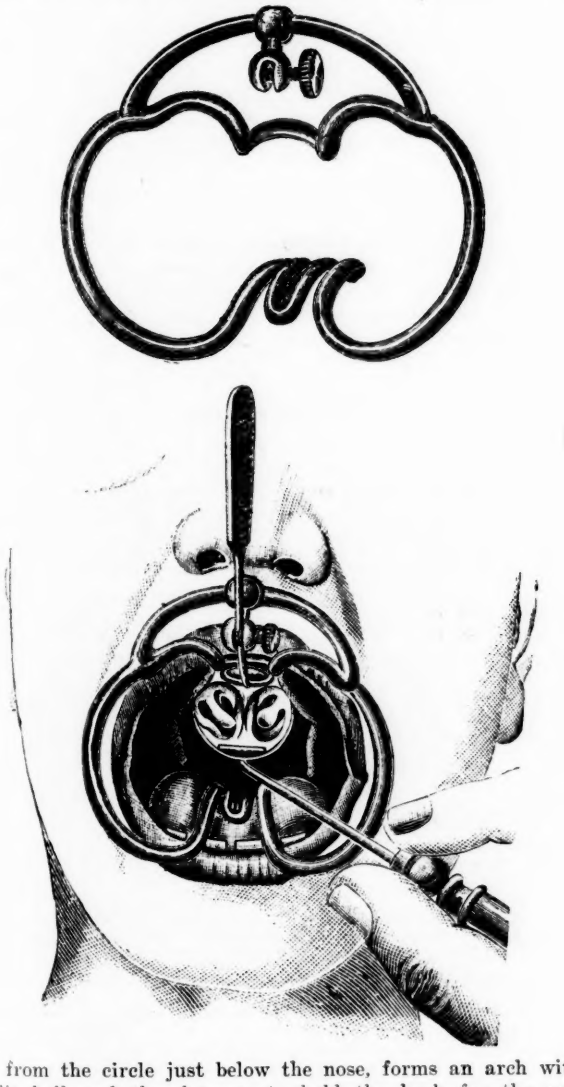
Deutsche Medicinische Wochenschrift (Berlin), June.

Fourth Report from Malarial Expedition. R. KOCH.—This communication is dated April 28, and confirms the remarkably favorable results of the prophylactic and therapeutic

measures instituted by Koch at Stephansort, described in former reports. The dreaded rainy season has come, with no new cases and only a few recurrences. Fresh infection is sure to occur when susceptible new-comers arrive, but this infection is easily kept under control. The important fact has been established that workmen imported from malarial regions are immune to infection, while those from malaria-free districts are liable to suffer severely. Another important fact is the necessity of investigating the blood of latent, mild cases of malarial infection, which have very slight clinical manifestations, but may be dangerous sources of infection. Koch reiterates his assertions that it is possible to eradicate malarial infection entirely or approximately in any malarial region, by the measures proposed.

Wiener Klinische Rundschau, June 20 and 17.

Automatic Tongue Depressor for Posterior Rhinoscopy. M. PAUNZ.—Strong wire is bent to form a continuous tongue depressor and circle to hold the mouth open; a slight bend in the wire at the top of the circle fits under the middle of the upper lip. An additional piece of wire, springing from the circle just below the nose, forms an arch with a slit ball and thumb-screw to hold the hook for the soft palate. This hook has a thin, flexible neck, and can be bent up toward the nose. The entire field is thus automatically exposed to view, broadly opened, with no hands nor instruments in the way.



Acute Occlusion Caused by Ovarian Cysts. S. G. SCHALITA.—In the case reported, an ovarian cyst had suddenly increased in size and caused acute occlusion with superficial pressure—necrosis of the ascending colon. In a second, similar case the intestine was found empty and dark-colored. The stem was twisted in each and the sudden occlusion was probably due to a hemorrhage into the cyst, induced by the torsion. The size and weight of the cyst had been much increased by this hemorrhage, with consequent compression and occlusion of the intestine on which it rested.

Muenchener Medicinische Wochenschrift, June 10.

Causes of Primary Iritis. v. MICHEL.—General examination of 84 cases of primary iritis at Würzburg disclosed chronic nephritis in 34.5 per cent.; tuberculosis in 36.8; affections of the circulatory apparatus in 15.4; syphilis in 5.9; and various other affections in 7.1. The large proportion of chronic nephritis emphasizes the necessity of general examination and appropriate treatment in all cases of "primary iritis" and also of parenchymatous keratitis, which probably has a similar etiology.

Operative Treatment of Inversion of the Uterus. W. THORN.—Total inversion three months after childbirth in a very anemic patient had resisted all treatment and attempts at reduction, hemorrhage occurring at every intervention. Thorn opened the anterior cul-de-sac, incised the anterior wall of the uterus, and was then able to reduce the inversion after breaking up the adhesions. The walls of the uterus were then sutured together, commencing at the fundus, and the organ was supported by a broad stitch taken through the anterior wall, the peritoneum of the cul-de-sac and the vagina. The bleeding was slight and the patient rapidly recovered, leaving her bed the ninth day, and the clinic six days later.

Idiopathic Osteopsathyrosis. L. LANGE.—The photograph of a six-year-old, intelligent child is given, who was healthy until his twenty-second month, when a slight fall caused him to break one of his long bones, and since then he has sustained twenty-two fractures of this kind. There are no symptoms of rachitis except this fragility of the bones, and consolidation follows with remarkable rapidity.

Wiener Klinische Wochenschrift, May 31 June 7 and 14.

Agglutinating Power of Human Serum. J. DONATH.—Landsteiner has recently called attention to the fact that human blood-serum has an agglutinating effect on the blood corpuscles of animals and also of other human beings, most pronounced when the serum is derived from very sick subjects. Donath has been studying the serum of anemic persons from this point of view, testing it on normal blood from himself and others. The agglutinating power in serum from chlorotic patients was strong in 18 cases, weak in 3, and absent in 7. It was extremely pronounced in one case of leukemia and absent in one of pernicious anemia. One serum agglutinated the corpuscles in his blood very strongly, while it had no effect on the blood of other normal persons; the amount of agglutination varied with the individual specimen of blood. The intensity of the agglutinating power is not proportionate to the severity of the anemia; it depends probably on more complicated factors.

Dislocation of Goiter. J. PREINDLSBERGER.—When goiter recurs and extirpation is impossible for any reason, or in case of bilateral compression of the air-passages, Wölfler "dislocates" the goiter, i. e., he removes it from the spot where it is causing functional disturbances and slips it along under the skin and muscles to another point, usually higher, where it can no longer press on the air-passages or esophagus. The writer describes a successful operation of this nature on a parenchymatous struma in a girl of 14, which had suddenly assumed a rapid growth and threatened suffocation. The right half was extirpated and the other moved to a new position in front of the trachea, after ligating the superior thyroid artery. The struma was still supplied by the inferior thyroid artery sufficiently to prevent necrosis, but the ligature of the superior thyroid reduced the supply of blood, causing the struma to diminish gradually in size, as hoped and anticipated.

Agglutination with Blood of Mother and Fetus. J. HALBAN.—Further research in the same line as Landsteiner's, mentioned above, is reported by Halban. It establishes the possibility of a reciprocal immunizing process between the organisms of mother and fetus. There is frequently a marked difference between the maternal and fetal sera in respect to

their power to agglutinate the red corpuscles in human blood and dissolve them. This power also depends to a certain extent upon the blood to be agglutinated—some blood is more susceptible than others. In cases in which the maternal—but not the fetal—serum possessed the agglutinating power, the former agglutinated the corpuscles in the fetal blood the same as in extraneous blood, and vice versa. The hemolytic power of the sera paralleled the agglutinating power, and the latter seemed to be about the same for bacteria, especially the cholera vibrios, as for the red corpuscles. As the agglutinins are probably albuminoid substances, and as the fetus takes albuminoid substances from the maternal organism for its nourishment, the fact of the absence of agglutinins in the fetal serum, when conspicuously present in the maternal, indicates a remarkable elective power of absorption on the part of the epithelium of the chorion. On the other hand, when the agglutinins abound in the fetal while absent from the maternal serum, they must be congenital, i. e., occur independently of the mother. We must therefore distinguish between congenital and acquired agglutinins and lysins, and between heteroagglutinins and isoagglutinins as well as lysins (see THE JOURNAL, June 30, Ehrlich on "Hemolysins," p. 1685). Halban proposes the term "idioisoagglutinins" for the congenital isoagglutinins found in the new-born infant. The appearance of idioagglutinins in the maternal or fetal serum may possibly be the manifestation of a reciprocal immunizing process occuring between the two organisms. Blood-cells are being constantly destroyed in the circulation and an exchange of organic fluids is constantly occurring in the placenta. These afford the conditions for immunization, and it is possible that the two organisms may thus influence each other, with the result of immunization. Assuming this to be the fact, the idioisoagglutinins and lysins must be regarded as the products of a reciprocal immunization between mother and fetus during gestation. The fact that the agglutinins are found more frequently in the maternal than in the fetal blood is explained by our knowledge that the fetus reacts less energetically to tuberculin, for instance; a new-born infant will bear doses in subcutaneous injection which would induce high fever in adults. When the idioagglutinins are found in adults it is posisble that they have persisted from the embryonal life. The most plausible explanation of the whole phenomenon of agglutination is that the agglutinating and hemolytic power of normal serum is a congenital property of certain substances which occur normally in the blood, possibly the globulin, or of a substance originating in a kind of self-immunization from the constant destruction of red corpuscles.

Gazzetta degli Ospedale (Milan), June 10.

New Characteristics of Organic Mitral Lesions. G. BASSI.—An anatomic fact hitherto undescribed is the greater length of the anterior valve-flap in mitral stenosis, as compared with the normal. The flap was longest in cases which presented marked symptoms of mitral stenosis during life without the characteristic valvular constriction being found at the autopsy. Bassi therefore states that unusual length of the anterior segment—generally associated with increased thickness of the flap and also of the chordæ tendineæ—is an indication of a true organic lesion of the mitral valve, affirming the existence of a mitral defect during life, probably with symptoms of stenosis. The other characteristic to which he calls attention is that of a clinical order, and consists in the doubling of the second, or pulmonary, sound observed in connection with a special modification of the radial pulse. Combining auscultation of the heart with sphygmographic tracings, the duplication of the sound corresponds to a brief intermittency, a slight lengthening of the descending branch of the pulse, which signifies a prolongation of the ventricular systole.

Nordiskt Medicinskt Arkiv (Stockholm), May 16.

Primary Sarcoma of the Pleura. ISRAEL-ROSENTHAL.—Two cases of primary sarcoma of the pleura came under Rosenthal's observation in 1898. One was a healthy young coachman, who had been kicked in the thorax by a horse. Fever followed, the symptoms simulating a large pleuritic effusion with dyspnea and expectoration. Punctures were negative or brought out a small amount of a chocolate-colored fluid. After death from asphyxia a very large, isolated, round-celled sarcoma was found, which compressed the intact lung and forced it downward. All the other organs were sound. The acute and febrile course of the affection, with death in five or six weeks, is exceptional, if not unknown. The connection with the trauma was unmistakable. Loewenthal noted a similar coincidence in 800 cases of malignant tumors collected by him, including 316 cases of sarcoma, and Ziegler in 35 out of 171 sarcomata. In the second case the first symptom was intermittent pain radiating from the left hypochondriac toward the renal region and the iliac fossa of the same side; there were no gastric symptoms, no indications of pulmonary trouble except the pain, and no fever, but progressive emaciation. The pain and emaciation continued for fifteen months; the stethoscope indicated a moderate pleuritic effusion. A small, hard, tumefied intercostal lymphatic gland was noted below the nipple, but no cough, nor marked dyspnea. The diagnosis was primary cancer of the colon with secondary pleuritic effusion. The autopsy showed a primary, round-celled sarcoma, as large as the head of an adult, on the left pleura. The colon was exceptionally long and twisted. Stethoscopic signs of tumors in the thorax are not absolutely reliable, neither is the retraction of the thorax wall nor the sensation of increased resistance to the exploring needle; these signs are also encountered in chronic, non-cancerous pleurisy. On the other hand, diffuse dilatation of the thoracic wall and obliteration of the intercostal spaces are not certain indications of effusion, as they were noted with a solid tumor in the first observation. Bronchial respiration was also noted over the tumor in one case. The results of exploratory puncture were misleading in both cases.

Relations Between Basedow's Disease and Myxedema. C. ULRICH.—Study of forty-three cases of struma has convinced Ulrich that there is a close pathologic kinship between Basedow's disease and myxedema, the symptomatic divergences merely indicating differences in degree.

Miscellany.

NEW PATENTS.

Patents of interest to physicians, etc., June 19 to 26.

651,962. Apparatus for treating respiratory diseases. Demetrius Boghean, Vienna, Austria-Hungary.
651,921. Trephine. Allen De Vilbiss, Toledo, Ohio.
652,119. Making sulfuric anhydrid. Rudolph Knietsch, Ludwigshafen, Germany.
652,217. Electric belt. Michael A. McLaughlin, Los Angeles, Cal.
651,951. Preparing remedial serum. Franz Nieman, Basle, Switzerland,
651,978. Electric belt. Wm. C. Sedwick, Des Moines, Iowa.
652,202. Artificial ear-drum. Laura H. Vickers, Philadelphia, Pa.
651,942. Obtaining pyrobetulin. James Wheeler, Ilfracombe, England.
652,345. Disinfectant. Francois C. Cartier, Paris, France.
652,319. Time medicine-cabinet. Frederick A. Linger and J. A. Carlisle, Washington, D. C.
652,286. Clinical thermometer. John F. Myers, Sodus, New York.
652,446. Electromedical bath. Johann J. Stanger, Ulm, Germany.
652,525. Artery forceps. Frederick A. Stohlmann and L. G. Pfarre, New York City.

CHANGE OF ADDRESS.

Dr. E. S. Albee, from Chicago to Oshkosh, Wis.
Dr. F. X. Adams, from 114 Grant St. to 1100 S. Main St., Akron, Ohio.
Dr. S. S. Adams, from Washington, D. C., to West Springfield, N. H.
Dr. L. E. Andrews, from 356 S. Hermitage Ave., Chicago, to North Manchester, Ind.
Dr. J. Q. Allen, from Montrose to Telluride, Colo.
Dr. F. L. Anton, from 737 Buena Vista, to Old Sta K, Los Angeles, Cal.
Dr. N. M. Black, from 128 Wisconsin St. to 1807 Grand Ave., Milwaukee, Wis.
Dr. W. E. Bewley, from Warrensburg to Morristown, Tenn.
Dr. M. W. Bland, from 239 Ogden Ave., Chicago, to Galion, O.
Dr. L. P. H. Bahrenburg, from Brooklyn, N. Y., to Pemberville, O.
Dr. J. M. Brigham, from 607 E. Ann St., Ann Arbor, to Howell, Mich.
Dr. W. A. Burleigh, from Morrow to Fordoche, La.
Dr. W. Bertrand, from Cloutierville to Rosa, La.
Dr. H. Beyer, from 291 S. Lincoln St., Chicago, to Orange City, Iowa.
Dr. A. H. Benson, from 667 W. Adams St., Chicago, to Lake Park, Iowa.

Dr. L. L. Beehler, from Chicago to Manchester, Iowa.
Dr. L. F. Bucher, from Rush Med. Col., Chicago, to Box 70, Walnut, Ill.
Dr. S. Brownstein, from St. Louis, Mo., to 16 Johnson St., Chicago.
Dr. E. W. Carpenter, from Hyman to Blossom, S. C.
Dr. A. L. Cowden, from Olathe to Burlington, Kansas.
Dr. L. Dawson, from Rannir Club to Bailey Bldg., Seattle, Wash.
Dr. M. D. Delaney, from 911 Duke St. to 913 Prince St., Alexandria, Va.
Dr. G. L. Dines, from Libertyville to Mine La Motte, Mo.
Dr. B. B. Eads, from 530 Grand Ave. to 683 Washington Boul., Chicago.
Dr. A. T. Finch, from Blacksburg to Clarksville, Va.
Dr. W. H. Fall, from 534 7th St. to 422 W. 7th St., Cincinnati, Ohio.
Dr. J. A. Hill, from Groveton to Lufkin, Tex.
Dr. S. P. Hart, from Chicago to Auburn, Ill.
Dr. H. M. Hall, from Augusta to Cedartown, Ga.
Dr. C. E. Ide, from 528 Washington Boul., Chicago to Newport, N. H.
Dr. E. G. Little, from 361 E. Couch St. to 53 E. 11th St., Portland, Ore.
Dr. H. L. Lynah, from Charleston, S. C., to Johns Hopkins Hospital, Baltimore, Md.
Dr. J. W. Lea, from Cuero, Tex., to Jackson, La.
Dr. J. M. Mitchell, from Pontiac, Ill., to Milwaukee Hospital, Milwaukee, Wis.
Dr. J. McFarland, from 421 W. Price St. to 442 W. Stafford St., Germantown, Pa.
Dr. W. C. Mabry, from Cleveland to Stillwater, Ohio.
Dr. W. O. Neal, from Charlesville to Asbury, Va.
Dr. O. A. Newhouse, from Chicago to Battleground, Ind.
Dr. E. S. Pettyjohn, from Chicago to 6 Rue Halevy, Place de L'Opera, Paris, France.
Dr. B. G. Pinkerton, from Beyrout, Syria, to City Hospital, St. Louis, Mo.
Dr. Delos L. Parker, from 397 to 559 Jefferson Ave., Detroit, Mich.
Dr. A. C. Page, from Chicago to Des Moines, Iowa.
Dr. W. J. Pinkerton, from Chicago to Ludlow, Ill.
Dr. George Rubin, from 7 Rue Scribe Robert to 11 Rue Scribe, Paris, France.
Dr. R. R. Reynolds, from Nilson and 6th Sts. to 219 Superior St., Cleveland, Ohio.
Dr. B. Reed, from Philadelphia, Pa., to Hammonton, N. J.
Dr. W. D. Ruhl, from 434 to 454 Calhoun St., Ft. Wayne, Ind.
Dr. E. S. Riggs, from Washington, Pa., to Hamills Point, Lake Joseph, Muskoka, Canada.
Dr. W. H. St. Clair, from Charlottesville to Bluestone, Va.
Dr. P. B. Schofield, from Newark, Mo., to Luling, Texas.
Dr. W. Shafer, from Chicago to Moracco, Ind.
Dr. E. J. Senn, from 25 Astor St., to 100 State St., Chicago.
Dr. I. Sewell, from Cedar Bluff, Ala., to Cave Spring, Ga.
Dr. S. J. Townsend, from Las Vegas, N. Mex., to Cherry Creek, Nevada.
Dr. W. H. Walker, from Chicago to Utica, Neb.
Dr. L. P. Walbridge, from 602 U. T. Bldg. to 5001 Vernon Ave., St. Louis, Mo.
Dr. F. L. Wilcox, from Chicago to Albert Lea, Minn.
Dr. R. Williams, from Chicago to Carthage, Ill.
Dr. G. Wood, from 348 E. 55th St. to 143 E. 35th St., Chicago.

Queries and Minor Notes.

LAWS REGULATING PRACTICE.

ST. LOUIS, June 16, 1900.

To the Editor.—Kindly inform me whether a person holding certificates for three courses in a four-year school and a diploma (covering another year) from a school now graduating M.D.s after three courses, can practice in a state where four courses are required, or rather, would the receiving of a diploma from the three-year school bar him out, although he had taken four courses altogether? W. F. S.

ANSWER:—Yes. A diploma from a three-year school is the same whether the holder has taken three or more courses and would not be recognized in those states which demand a four-years course.

CHICAGO, ILL., June 23, 1900.

To the Editor.—Regarding those state examinations, how is it for old practitioners who graduated under the three-year course? If a state requires a four-years course, is no allowance made for those who received diplomas before that law was passed? D. C. B.

ANSWER:—No state can make *ex post facto* laws and so far as the exclusion falls under that head it would be invalid. A more definite answer can not be given without specifically referring to the different state laws.

DR. APOSTOLI.

LAFAYETTE, IND., June 24, 1900.

To the Editor.—Will you kindly inform me of the address of Dr. Apostoli, of Paris? I have tried several places but have been unable to obtain his correct address, and thought possibly you could enlighten me. Very truly yours, E. C. D.

ANSWER:—The death of Dr. Apostoli was noticed in THE JOURNAL of May 26.

The Public Service.

ARMY CHANGES.

Movements of army medical officers under orders from the Adjutant-General's Office, Washington, D. C., June 22 to 28, 1900, inclusive.

Charles Anderson, acting asst-surgeon, from Santa Barbara, Cal., to duty at Fort Brown, Texas.

Lewis Balch, major and surgeon, Vols., previous orders of June 15, 1900, honorably discharging him from the service, revoked.

Christopher C. Collins, lieutenant and asst.-surgeon U. S. A., member of an examining board at San Francisco, Cal.

George H. Crabtree, acting asst-surgeon, from Chicago, to duty in the Department of California.

William D. Crosby, major and surgeon Vols. (captain and asst.-surgeon U. S. A.) honorably discharged from the volunteer service, to take effect June 30, 1900.

John R. Devereaux, acting asst.-surgeon, from Washington, D. C., to duty at Washington Barracks, D. C.

Robert J. Gibson, major and surgeon, U. S. A., relieved from membership on examining board at San Francisco, Cal.

Philip F. Harvey, major and surgeon, U. S. A., leave of absence extended; relieved from membership on examining board at San Francisco, Cal.

Augusta A. Nouel, acting asst.-surgeon, from New York City to Havana, Cuba, for assignment in the Division of Cuba.

Benjamin F. Pope, lieutenant-colonel, deputy surgeon-general, U. S. A., member of an examining board at San Francisco, Cal.

BOARD CONVENED.

On June 27, 1900, by direction of the acting secretary of war, a board of medical officers to consist of Major John Van R. Hoff, surgeon, U. S. A.; Major Peter R. Egan, surgeon, U. S. A.; Capt. George M. Wells, asst.-surgeon, U. S. A.; Lieut. Frederick F. Russell, asst.-surgeon, U. S. A., is constituted to meet at headquarters, Department of Porto Rico, San Juan, P. R., for the examination of candidates for admission into the medical corps of the army. The board will be governed in its proceedings by such instructions as may be communicated to it by the surgeon-general of the army.

NAVY CHANGES.

Changes in the medical corps of the U. S. Navy for the week ending June 30, 1900.

Asst.-Surgeon C. N. Fiske, ordered to the Boston navy yard.

Surgeon W. H. Rush, when discharged from treatment at the naval hospital, Mare Island, Cal., ordered to Washington, D. C., July 10, for examination for retirement, and then home to wait orders.

Asst.-Surgeon O. M. Eakins, detached from the *Buffalo* and ordered to the *Scindia*.

Surgeon C. F. Stokes, promoted to surgeon from May 31, 1900.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending June 26, 1900.

Surgeon H. W. Austin, granted leave of absence for one month from Aug. 2, 1900.

Surgeon G. M. Magruder, granted leave of absence for 10 days.

P. A. Surgeon A. C. Smith, granted leave of absence for 7 days.

P. A. Surgeon J. H. Oakley, granted leave of absence for 15 days.

P. A. Surgeon E. K. Sprague, granted leave of absence for 10 days.

P. A. Surgeon H. W. Wickes granted leave of absence for 15 days.

Asst.-Surgeon S. B. Grubbs, granted leave of absence for one month from August 20.

Asst.-Surgeon J. F. Anderson, granted leave of absence for 10 days.

Asst.-Surgeon W. C. Billings, granted leave of absence for 18 days from June 28.

Asst.-Surgeon R. L. Wilson, relieved from special temporary duty at San Francisco quarantine and directed to report to medical officer in command at San Francisco for duty and assignment to quarters.

Asst.-Surgeon B. H. Earle, relieved from special temporary duty at San Francisco quarantine and directed to report to medical officer in command at San Francisco for duty and assignment to quarters.

Asst.-Surgeon J. D. Long, upon being relieved from duty at New York City (Stapleton) to proceed to Washington, D. C., and report to director of hygienic laboratory for duty.

Asst.-Surgeon Edward Francis, to proceed to New York City, (Stapleton) and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon L. P. H. Bahrenburg, to proceed to New York City, and report to Surgeon L. L. Williams, immigration depot, for duty.

Asst.-Surgeon J. T. Burkhalter, to proceed to New York City (Stapleton) and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon John S. Boggess, to proceed to Chicago, Ill., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon G W. McCoy, to proceed to St. Louis, Mo., and

report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon C. C. Pierce, to proceed to Mobile, Ala., and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon B. S. Warren, to report at Washington, D. C., for temporary duty.

Acting Asst.-Surgeon J. A. Rowles, granted leave of absence for 10 days from June 12.

Acting Asst.-Surgeon H. C. Sibree, granted leave of absence for 7 days.

Hospital Steward A. M. Roehrig, upon being relieved from special temporary duty at San Francisco quarantine, to rejoin station at San Francisco, Cal.

Hospital Steward F. R. Hanrath, relieved from duty at New York City (Stapleton) and upon expiration of sick leave of absence, to proceed to Cleveland, Ohio, and report to medical officer in command for duty and assignment to quarters.

Hospital Steward F. L. Gibson, relieved from duty at Washington, D. C., and directed to proceed to Honolulu, Hawaii, and report to Surgeon D. A. Carmichael for duty and assignment to quarters.

APPOINTMENTS.

Edward Francis, of Ohio, Louis P. H. Bahrenburg, of Ohio, John T. Burkhalter, of Georgia, John S. Boggess, of Ohio, George W. McCoy, of Tennessee, Claude C. Pierce, of Tennessee, and Benjamin S. Warren, of Alabama, commissioned as assistant-surgeons June 22, 1900.

Walter R. Hicks, of Michigan, appointed acting assistant-surgeon for duty at Menominee, Mich.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended June 29, 1900.

SMALLPOX—UNITED STATES

District of Columbia: Washington, June 16-23, 14 cases.
Illinois: Chicago, June 16-23, 7 cases.
Indiana: Indianapolis, June 15-22, 2 cases.
Kansas: Wichita, June 16-23, 3 cases.
Kentucky: Covington, June 16-23, 12 cases, 1 death.
Louisiana: New Orleans, June 16-23, 16 cases, 7 deaths; Shreveport, June 16-23, 3 cases.
Massachusetts: Fall River, June 16-23, 5 cases; Lowell, June 16-23, 1 case.
Michigan: Grand Rapids, June 16-23, 1 case.
New Hampshire: Manchester, June 16-23, 3 cases.
New Jersey: Jersey City, June 17-24, 1 case; Newark, June 8-23, 10 cases.
New York: New York, June 15-23, 4 cases.
Ohio: Cleveland, June 16-23, 12 cases.
Pennsylvania: Pittsburg, June 16-23, 1 case.
Tennessee: Nashville, June 16-23, 5 cases.
Washington: Tacoma, June 8-16, 1 case.
West Virginia: Charlestown, June 19, 14 cases; Wheeling, June 22, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, June 2-9, 8 cases.
Belgium: Antwerp, May 26 to June 2, 1 case.
Brazil: Rio de Janeiro, May 11-18, 7 cases, 5 deaths.
Canada: Province of Quebec, Bonaventure Co., May 21-28, 1 case.
China: Hongkong, May 5-19, 1 case.
England: Liverpool, June 2-9, 4 cases; London, June 2-9, 11 cases; Southampton, June 2-16, 2 cases.
France: Lyons, May 19-26, 3 deaths; Paris, June 2-9, 3 deaths.
Gibraltar: June 3-10, 1 case.
Greece: Athens, June 2-9, 4 cases, 2 deaths.
India: Bombay, May 16-29, 29 deaths; Calcutta, April 21-28, 41 deaths; Kurrachee, May 13-27, 61 cases, 48 deaths; Madras, May 5-25, 1 death.
Mexico: Chihuahua, May 26 to June 9, 4 deaths; Vera Cruz, June 8-16, 9 deaths.
Porto Rico: Ponce, June 4-11, 2 cases.
Russia: Moscow, May 25 to June 2, 13 cases, 3 deaths; Odessa, June 2-9, 6 cases, 1 death; St. Petersburg, May 26 to June 2, 47 cases, 8 deaths; Warsaw, May 19 to June 2, 6 deaths.
Scotland: Glasgow, June 15, 1 death.
Spain: Corunna, June 2-9, 1 death.
Straits Settlements: Singapore, May 10-17, 3 deaths.

YELLOW FEVER.

Colombia: Barranquilla, June 2-9, 4 cases, 3 deaths; Panama, June 11-18, 3 cases.
Cuba: Havana, June 6-17, 6 cases, 2 deaths; Santa Clara, May 16 to June 21, 26 cases, 8 deaths; Trinidad, June 19, 1 case.
Mexico: Vera Cruz, June 8-16, 15 deaths.

CHOLERA.

India: Bombay, May 17-29, 110 deaths; Calcutta, April 21-28, 92 deaths.

PLAGUE.

Arabia: Aden, May 12 to June 2, 170 cases, 100 deaths.
China: Amoy, June 23, reported; Hongkong, May 5-19, 155 cases, 142 deaths.
India: Bombay, May 17-29, 410 deaths; Calcutta, April 21-25, 343 deaths; Kurrachee, May 13-27, 154 cases, 115 deaths.
Japan: Osaka, May 25 to June 2, 4 cases; Shidzuoka Ken, May 25 to June 2, 5 cases.
Turkey: Smyrna, May 29, 1 case.

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